Supplementary appendices

Integrating Artificial Intelligence with Mechanistic Epidemiological Modeling: A Scoping Review of Opportunities and Challenges

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Appendix 1. Eligibility criteria

Our review included seven types of mechanistic models commonly used in epidemiological modeling: compartmental models, individual/agent-based models, metapopulation models, cellular automata, renewal equations, chain binomial models, and branching processes. Other epidemiological models were not considered eligible. Eligible AI techniques in our review included DL models (which are based on neural networks) and ML models that (i) have limited but growing integration with mechanistic epidemiological models and (ii) are more commonly referred to as "ML" than "statistical" models. Since there is no explicit rule for determining common usage or reference, the final inclusion or exclusion of a study was determined through discussion among the review team. This collaborative approach ensures a consistent and well-defined scope for our review.

We detail each exclusion reason below.

Not using eligible AI techniques or mechanistic epidemiological models

- Using ineligible AI techniques, such as gradient-based or heuristic optimization algorithms, statistical models (e.g., linear regression models, time series models, Gaussian processes, maximum likelihood estimation, and filtering methods), fuzzy logic systems, automatic differentiation, and matrix factorization
- Using ineligible mechanistic epidemiological models, such as static models
- Providing insufficient methodological details of AI techniques or mechanistic epidemiological models to support the verification of their eligibility

No integration of AI techniques with mechanistic epidemiological models

- Comparing the performance of AI techniques and mechanistic epidemiological models
- Constructing AI techniques as alternative modeling approaches
- Not combining the outputs of mechanistic epidemiological models with AI techniques
- Using mechanistic epidemiological models solely to generate validation/testing datasets for AI techniques
- Providing insufficient methodological details to verify if AI techniques were integrated with mechanistic epidemiological models

Not studying infectious disease epidemiological modeling

- Studying non-infectious diseases, such as computer viruses and invasive species
- Studying non-epidemiological modeling, such as classification of disease severity, modeling the growth of pathogens, treatment decision-making, and ecological niche modeling
- Only for within-host infection dynamics

Others

- Duplicates

- Not reporting original research
- Not published in peer-reviewed journals or proceedings of conferences, workshops, or symposiums
- Framework only
- English translation not available
- Full text not available
- Retraction

The exclusion reason for each excluded study can be found in Appendix 17.

Appendix 2. Search strategy

Search terms

AI	Epidemic modeling	Modeling	Infectious disease	Infectious agents	Spreading
"artificial intelligence"	"epidemic model*"	"mathematical model*"	epidemi*	virus*	spread*
"machine learning"	"epidemics model*"	"simulation model*"	pandemic*	viral	transmissi*
"deep learning"	"epidemiological model*"	"stochastic model*"	endemic*	parasit*	transmit*
"reinforcement learning"	"transmission model*"	"deterministic model*"	"communicable disease*"	pathogen*	propagat*
"natural language processing"	"compartmental model*"	"differential equation*"	borne AND disease*	bacter*	
"neural network*"	"compartment model*"	"agent based model*"	emerg* AND disease*	microb*	
"decision tree*"	"chain binomial epidemic*"	"individual based model*"	infect*	fung*	
"random forest*"		"computational model*"	contagio*	protozo*	
"support vector machine*"		"disease model*"	outbreak*	helminth*	
"long short term memory"		"dynamic model*"	vaccin*	worm*	
"language model*"		"dynamics model*"	epizootic*	disease*	
		"mechanistic model*"	enzootic*	strain*	
		"mechanism model*"	panzootic*	variant	
		"metapopulation model*"	zoono*	variants	
		"meta population model*"			
		"renewal equation*"			
		"renewal process*"			
		"chain binomial process*"			
		"chain binomial model*"			
		"branching process*"			

PubMed (December 6, 2023: 1382 hits)

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network*"[tiab] OR "decision tree*"[tiab] OR "decision trees"[Mesh] OR "random forest*"[tiab] OR "support vector machine*"[tiab] OR "long short term memory"[tiab] OR "language model*"[tiab])
AND
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OR
(("mathematical model*"[tw] OR "simulation model*"[tw] OR "stochastic model*"[tw] OR "deterministic model*"[tw] OR "differential equation*"[tw] OR "agent based model*"[tw] OR "individual based model*"[tw] OR "computational model*"[tw] OR "disease model*"[tw] OR "dynamic model*"[tw] OR "dynamics model*"[tw] OR "mechanistic model*"[tw] OR "mechanism model*"[tw] OR "metapopulation model*"[tw] OR "meta population model*"[tw] OR "renewal equation*"[tw] OR "renewal process*"[tw] OR "chain binomial process*"[tw] OR "chain binomial model*"[tw] OR "branching process*"[tw])
AND
((epidemi*[tw] OR pandemic*[tw] OR endemic*[tw] OR "communicable disease*"[tw] OR (borne[tw] AND disease*[tw]) OR (emerg*[tw] AND disease*[tw]) OR infect*[tw] OR contagio*[tw] OR outbreak*[tw] OR vaccin*[tw] OR epizootic*[tw] OR enzootic*[tw] OR panzootic*[tw] OR zoono*[tw])
OR
((virus*[tw] OR viral[tw] OR parasit*[tw] OR pathogen*[tw] OR bacter*[tw] OR microb*[tw] OR fung*[tw] OR protozo*[tw] OR helminth*[tw] OR worm*[tw] OR disease*[tw] OR strain*[tw] OR variant[tw] OR variants[tw])
AND
(spread*[tw] OR transmissi*[tw] OR transmit*[tw] OR propagat*[tw])))))

Embase (Ovid) (December 6, 2023: 3342 hits)

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protozo*.mp. OR helminth*.mp. OR worm*.mp. OR disease*.mp. OR strain*.mp. OR variant.mp. OR variants.mp.) AND (spread*.mp. OR transmissi*.mp. OR transmit*.mp. OR propagat*.mp.)))))

Web of Science (December 6, 2023: 2003 hits)

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AND
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OR
((TS="mathematical model*" OR TS="simulation model*" OR TS="stochastic model*" OR TS="deterministic model*" OR TS="differential equation*" OR TS="agent based model*" OR TS="individual based model*" OR TS="computational model*" OR TS="disease model*" OR TS="dynamic model*" OR TS="dynamics model*" OR TS="mechanistic model*" OR TS="mechanism model*" OR TS="metapopulation model*" OR TS="meta population model*" OR TS="renewal equation*" OR TS="renewal process*" OR TS="chain binomial process*" OR TS="chain binomial model*" OR TS="branching process*")
AND
((TS=epidemi* OR TS=pandemic* OR TS=endemic* OR TS="communicable disease*" OR (TS=borne AND TS=disease*) OR (TS=emerg* AND TS=disease*) OR TS=infect* OR TS=contagio* OR TS=outbreak* OR TS=vaccin* OR TS=epizootic* OR TS=enzootic* OR TS=panzootic* OR TS=zoono*)
OR
((TS=virus* OR TS=viral OR TS=parasit* OR TS=pathogen* OR TS=bacter* OR TS=microb* OR TS=fung* OR TS=protozo* OR TS=helminth* OR TS=worm* OR TS=disease* OR TS=strain* OR TS=variant OR TS=variants)
AND
(TS=spread* OR TS=transmissi* OR TS=transmit* OR TS=propagat*)))))

Scopus (December 6, 2023: 4574 hits)

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AND

((TITLE-ABS-KEY("epidemic model*") OR TITLE-ABS-KEY("epidemics model*") OR TITLE-ABS-KEY("epidemiological model*") OR TITLE-ABS-KEY("transmission model*") OR TITLE-ABS-KEY("compartmental model*") OR TITLE-ABS-KEY("compartment model*") OR TITLE-ABS-KEY("chain binomial epidemic*"))
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OR
((TITLE-ABS-KEY(virus*) OR TITLE-ABS-KEY(viral) OR TITLE-ABS-KEY(parasit*) OR TITLE-ABS-KEY(pathogen*) OR TITLE-ABS-KEY(bacter*) OR TITLE-ABS-KEY(microb*) OR TITLE-ABS-KEY(fung*) OR TITLE-ABS-KEY(protozo*) OR TITLE-ABS-KEY(helminth*) OR TITLE-ABS-KEY(worm*) OR TITLE-ABS-KEY(disease*) OR TITLE-ABS-KEY(strain*) OR TITLE-ABS-KEY(variant) OR TITLE-ABS-KEY(variants))
AND
(TITLE-ABS-KEY(spread*) OR TITLE-ABS-KEY(transmissi*) OR TITLE-ABS-KEY(transmit*) OR TITLE-ABS-KEY(propagat*))))))

IEEE Xplore

AI AND Epidemic modeling (Part 1) (December 6, 2023: 292 hits)

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AI AND Epidemic modeling (Part 2) (December 6, 2023: 0 hit)

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AI AND Modeling AND Infectious disease (Part 1) (December 6, 2023: 1301 hits)

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<u>AI AND Modeling AND Infectious disease (Part 2)</u> (December 6, 2023: 1004 hits)

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AI AND Modeling AND Infectious disease (Part 3) (December 6, 2023: 1 hit)
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AI AND Modeling AND Infectious disease (Part 4) (December 6, 2023: 0 hit)
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AND
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AI AND Modeling AND Infectious agents AND Spreading (Part 1) (December 6, 2023: 757 hits)
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AND
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AND
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AI AND Modeling AND Infectious agents AND Spreading (Part 2) (December 6, 2023: 0 hit)
("All Metadata":"artificial intelligence" OR "All Metadata":"machine learning" OR "All Metadata":"deep learning" OR "All Metadata":"reinforcement learning" OR "All Metadata":"natural language processing" OR "All Metadata":"neural network" OR "All Metadata":"neural networks" OR "All Metadata":"decision tree" OR "All Metadata":"decision trees" OR "All Metadata":"random forest" OR "All Metadata":"random forests" OR "All Metadata":"support vector machine" OR "All Metadata":"support vector machines" OR "All Metadata":"long short term memory" OR "All Metadata":"language model" OR "All Metadata":"language models" OR "All Metadata":"language modeling" OR "All Metadata":"language modelling")
AND
("All Metadata":"renewal equation" OR "All Metadata":"renewal equations" OR "All Metadata":"renewal process" OR "All Metadata":"renewal processes" OR "All Metadata":"chain binomial process" OR "All Metadata":"chain binomial processes" OR "All Metadata":"chain binomial model" OR "All Metadata":"chain binomial models" OR "All Metadata":"chain binomial modeling" OR "All Metadata":"chain binomial modelling" OR "All Metadata":"branching process" OR "All Metadata":"branching processes")
AND
("All Metadata":virus OR "All Metadata":viruses OR "All Metadata":viral OR "All Metadata":parasit* OR "All Metadata":pathogen* OR "All Metadata":bacter* OR "All Metadata":microb* OR "All Metadata":fung* OR "All Metadata":protozo* OR "All Metadata":helminth* OR "All Metadata":worm* OR "All Metadata":disease OR "All Metadata":diseases OR "All Metadata":strain OR "All Metadata":strains OR "All Metadata":variant OR "All Metadata":variants)
AND
("All Metadata":spread OR "All Metadata":spreads OR "All Metadata":spreading OR "All Metadata":spreaded OR "All Metadata":spreadable OR "All Metadata":transmission OR "All Metadata":transmissibility OR "All Metadata":transmissible OR "All Metadata":transmit OR "All Metadata":transmits OR "All Metadata":transmitting OR "All Metadata":transmitted OR "All Metadata":transmittable OR "All Metadata":propagate OR "All Metadata":propagates OR "All Metadata":propagation OR "All Metadata":propagated OR "All Metadata":propagating)

ACM Digital Library (Full-Text collection)

AI AND Epidemic modeling (Part 1) (December 6, 2023: 18 hits)

Title/Abstract: "artificial intelligence" OR "machine learning" OR "deep learning" OR "reinforcement learning" OR "natural language processing" OR "neural network" OR "neural networks" OR "decision tree" OR "decision trees" OR "random forest" OR "random forests" OR "support vector machine" OR "support vector machines" OR "long short term memory" OR "language model" OR "language models" OR "language modeling" OR "language modelling"
AND
Title/Abstract: "epidemic model" OR "epidemic models" OR "epidemic modeling" OR "epidemic modelling" OR "epidemics model" OR "epidemics models" OR "epidemics modeling" OR "epidemics modelling" OR "epidemiological model" OR "epidemiological models" OR "epidemiological modeling" OR "epidemiological modelling" OR "transmission model" OR "transmission models" OR "transmission modeling" OR "transmission modelling" OR "compartmental model" OR "compartmental models" OR "compartmental modeling" OR "compartmental modelling" OR "compartment model" OR "compartment models" OR "compartment modeling" OR "compartment modelling"

AI AND Epidemic modeling (Part 2) (December 6, 2023: 0 hit)

Title/Abstract: "artificial intelligence" OR "machine learning" OR "deep learning" OR "reinforcement learning" OR "natural language processing" OR "neural network" OR "neural networks" OR "decision tree" OR "decision trees" OR "random forest" OR "random forests" OR "support vector machine" OR "support vector machines" OR "long short term memory" OR "language model" OR "language models" OR "language modeling" OR "language modelling"
AND
Title/Abstract: "chain binomial epidemic" OR "chain binomial epidemics"

AI AND Modeling (Part 1) (December 6, 2023: 425 hits)

Title/Abstract: "artificial intelligence" OR "machine learning" OR "deep learning" OR "reinforcement learning" OR "natural language processing" OR "neural network" OR "neural networks" OR "decision tree" OR "decision trees" OR "random forest" OR "random forests" OR "support vector machine" OR "support vector machines" OR "long short term memory" OR "language model" OR "language models" OR "language modeling" OR "language modelling"
AND
Title/Abstract: "mathematical model" OR "mathematical models" OR "mathematical modeling" OR "mathematical modelling" OR "simulation model" OR "simulation models" OR "simulation modeling" OR "simulation modelling" OR "stochastic model" OR "stochastic models" OR "stochastic modeling" OR "stochastic modelling" OR "deterministic model" OR "deterministic models" OR "deterministic modeling" OR "deterministic modelling" OR "differential equation" OR "differential equations"

AI AND Modeling (Part 2) (December 6, 2023: 343 hits)

Title/Abstract: "artificial intelligence" OR "machine learning" OR "deep learning" OR "reinforcement learning" OR "natural language processing" OR "neural network" OR "neural networks" OR "decision tree" OR "decision trees" OR "random forest" OR "random forests" OR "support vector machine" OR "support vector machines" OR "long short term memory" OR "language model" OR "language models" OR "language modeling" OR "language modelling"

AND
Title/Abstract: "agent based model" OR "agent based models" OR "agent based modeling" OR "agent based modelling" OR "individual based model" OR "individual based models" OR "individual based modeling" OR "individual based modelling" OR "computational model" OR "computational models" OR "computational modeling" OR "computational modelling" OR "disease model" OR "disease models" OR "disease modeling" OR "disease modelling" OR "dynamic model" OR "dynamic models" OR "dynamic modeling" OR "dynamic modelling" OR "dynamics model" OR "dynamics models" OR "dynamics modeling" OR "dynamics modelling"

AI AND Modeling (Part 3) (December 6, 2023: 15 hits)
Title/Abstract: "artificial intelligence" OR "machine learning" OR "deep learning" OR "reinforcement learning" OR "natural language processing" OR "neural network" OR "neural networks" OR "decision tree" OR "decision trees" OR "random forest" OR "random forests" OR "support vector machine" OR "support vector machines" OR "long short term memory" OR "language model" OR "language models" OR "language modeling" OR "language modelling"
AND
Title/Abstract: "mechanistic model" OR "mechanistic models" OR "mechanistic modeling" OR "mechanistic modelling" OR "mechanism model" OR "mechanism models" OR "mechanism modeling" OR "mechanism modelling" OR "metapopulation model" OR "metapopulation models" OR "metapopulation modeling" OR "metapopulation modelling" OR "meta population model" OR "meta population models" OR "meta population modeling" OR "meta population modelling"

AI AND Modeling (Part 4) (December 6, 2023: 1 hit)
Title/Abstract: "artificial intelligence" OR "machine learning" OR "deep learning" OR "reinforcement learning" OR "natural language processing" OR "neural network" OR "neural networks" OR "decision tree" OR "decision trees" OR "random forest" OR "random forests" OR "support vector machine" OR "support vector machines" OR "long short term memory" OR "language model" OR "language models" OR "language modeling" OR "language modelling"
AND
Title/Abstract: "renewal equation" OR "renewal equations" OR "renewal process" OR "renewal processes" OR "chain binomial process" OR "chain binomial processes" OR "chain binomial model" OR "chain binomial models" OR "chain binomial modeling" OR "chain binomial modelling" OR "branching process" OR "branching processes"

Appendix 3. Details of primary screening procedures

We employed both manual and ML-assisted screening. In the manual screening, three reviewers (YY, AP, and CB) independently reviewed all titles and abstracts. In ML-assisted screening, we utilized the ASReview software (version 1.5; https://asreview.nl/)[1] — an open-source, ML-assisted tool for active learning in systematic reviews — to support decision-making. To train the ML model, we labeled forty records—twenty deemed irrelevant and twenty deemed relevant—as prior knowledge based on eligibility criteria. The model then determined study relevance from its textual content and presented study titles and abstracts in the order of relevance. One reviewer (YY) continued to label studies until a sequence of 55 consecutive irrelevant articles were identified of 2587 records (28%) labeled (safe and reasonable stopping criteria grounded by previous studies[2–4]), and 721 relevant studies were identified through ML-assisted screening. We then compared the relevant studies identified through manual screening and ASReview to finalize our decisions, with any discrepancies resolved through team discussion.

Appendix 4. Copy of the data extraction form

General information

1. Study ID
2. Title
3. Publication type
4. Publication title
5. The first author's name
6. Year of publication
7. DOI

Background and objectives

8. Brief description of the background
9. Investigation type
10. Infectious disease(s) investigated
11. Application area(s)
12. Study aims

Methodology

13. Epidemiological model(s)
14. AI technique(s)
15. Integration of epidemiological model(s) with AI technique(s)
16. Summary of the methodology

Appendix 5. Characteristics of studies satisfying the inclusion criteria

Study #	First author (Publication year)	Infectious disease(s) investigated	Investigation type	Application area(s)	Epidemiological model(s)	AI technique(s)*	Methodological framework*
1	Vilar JM (2023)[5]	COVID-19	Case study	Transmission inference	Renewal equation	Epidemiology-aware AI models	Physics-informed neural networks/Epidemiology-aware AI models
2	Ling C (2022)[6]	Non-specific	General framework	Transmission inference	Agent/individual-based model	Graph neural networks; Multilayer perceptron	Bayesian neural networks
3	Zou L (2021)[7]	Malaria	Specific investigation	Disease intervention assessment and optimization	Agent/individual-based model	Reinforcement learning	AI-enhanced optimization frameworks
4	Zhang M (2022)[8]	Non-specific	General framework	Disease intervention assessment and optimization	Agent/individual-based model	Graph neural networks	Surrogate modeling/syntheticall y-trained AI models
5	Yu EY (2020)[9]	Non-specific	General framework	Disease intervention assessment and optimization	Agent/individual-based model	Graph neural networks	Surrogate modeling/syntheticall y-trained AI models
6	Vereshchaka A (2021)[10]	COVID-19	Case study	Disease intervention assessment and optimization	Compartmental model	Reinforcement learning	AI-enhanced optimization frameworks
7	Torku TK (2021)[11]	COVID-19	Specific investigation	Model parameterizatio n and calibration	Compartmental model	Physics-informed neural networks	Physics-informed neural networks/Epidemiology-aware AI models
8	Song S (2020)[12]	Non-specific	General framework	Disease intervention assessment and optimization	Metapopulation model	Reinforcement learning	AI-enhanced optimization frameworks
9	Salman AM (2021)[13]	COVID-19	Case study	Model parameterizatio n and calibration	Compartmental model	Neural networks	AI-augmented epidemiological models
10	Probert WJ (2019)[14]	Foot-and-mo uth disease	Case study	Disease intervention assessment and optimization	Agent/individual-based model	Reinforcement learning	AI-enhanced optimization frameworks
11	Ou Y (2022)[15]	Non-specific	General framework	Disease intervention assessment and optimization	Agent/individual-based model	Graph neural networks	Surrogate modeling/syntheticall y-trained AI models
12	Nsoesie EO (2011)[16]	Influenza	Case study	Model parameterizatio n and calibration	Agent/individual-based model	Tree-based methods; Support vector machines; K-nearest neighbors	Surrogate modeling/syntheticall y-trained AI models
13	Kandula S (2018)[17]	Influenza-lik e illness	Specific investigation	Infectious disease forecasting	Compartmental model	K-nearest neighbors	Ensemble learning frameworks
14	Garner MG (2016)[18]	Foot-and-mo uth disease	Specific investigation	Infectious disease forecasting	Agent/individual-based model	Tree-based methods	Surrogate modeling/syntheticall y-trained AI models

15	Bhouri MA (2021)[19]	COVID-19	Specific investigation	Model parameterization and calibration; Infectious disease forecasting	Compartmental model	Recurrent neural networks	AI-augmented epidemiological models
16	Barmparis GD (2022)[20]	COVID-19	Specific investigation	Model parameterization and calibration; Infectious disease forecasting	Compartmental model	Physics-informed neural networks	Physics-informed neural networks/Epidemiology-aware AI models
17	Adiga A (2021)[21]	COVID-19	Specific investigation	Infectious disease forecasting	Compartmental model	Recurrent neural networks	Ensemble learning frameworks
18	Ghosh S (2023)[22]	COVID-19	Specific investigation	Model parameterization and calibration	Compartmental model	Physics-informed neural networks	Physics-informed neural networks/Epidemiology-aware AI models
19	Liu X (2023)[23]	COVID-19	Specific investigation	Infectious disease forecasting	Compartmental model	Recurrent neural networks; Encoder-decoder models; K-nearest neighbors	AI-augmented epidemiological models
20	Rahnsch B (2023)[24]	COVID-19	Specific investigation	Infectious disease forecasting	Compartmental model	Neural networks	AI-augmented epidemiological models
21	Kumar N (2023)[25]	COVID-19	Specific investigation	Infectious disease forecasting	Compartmental model	Recurrent neural networks	AI-augmented epidemiological models
22	Ji J (2023)[26]	COVID-19	Specific investigation	Infectious disease forecasting	Compartmental model	Tree-based methods	AI-augmented epidemiological models
23	Wang L (2020)[27]	Influenza-like illness	Specific investigation	Infectious disease forecasting	Agent/individual-based model	Recurrent neural networks	Surrogate modeling/synthetically-trained AI models
24	Vega R (2022)[28]	COVID-19	Specific investigation	Infectious disease forecasting	Compartmental model	Neural networks	AI-augmented epidemiological models
25	Tuarob S (2015)[29]	Influenza	Case study	Model parameterization and calibration	Agent/individual-based model	Tree-based methods; Support vector machines; Natural language processing	Epidemiological models with improved observational data
26	Ohi AQ (2020)[30]	Non-specific	General framework	Disease intervention assessment and optimization	Agent/individual-based model	Reinforcement learning	AI-enhanced optimization frameworks
27	Mežnar S (2020)[31]	Non-specific	General framework	Disease intervention assessment and optimization	Agent/individual-based model	Graph neural networks; Tree-based methods	Surrogate modeling/synthetically-trained AI models
28	Khadilkar H (2020)[32]	Non-specific	General framework	Disease intervention assessment and optimization	Compartmental model	Reinforcement learning	AI-enhanced optimization frameworks
29	Hao Q (2022)[33]	COVID-19	Specific investigation	Disease intervention assessment and optimization	Metapopulation model	Graph neural networks; Reinforcement learning	AI-enhanced optimization frameworks

30	Fu Z (2020)[34]	COVID-19	Specific investigation	Outbreak detection	Compartmental model	Tree-based methods; Support vector machines; Reinforcement learning; Multilayer perceptron	AI models incorporating epidemiological input features
31	Farooq J (2020)[35]	COVID-19	Specific investigation	Infectious disease forecasting	Compartmental model	Multilayer perceptron	AI-augmented epidemiological models
32	Cai M (2022)[36]	COVID-19	Specific investigation	Model parameterization and calibration	Compartmental model	Physics-informed neural networks	Physics-informed neural networks/Epidemiology-aware AI models
33	Arık SÖ (2021)[37]	COVID-19	Specific investigation	Model parameterization and calibration; Infectious disease forecasting	Compartmental model	Tree-based methods	AI-augmented epidemiological models
34	Liu P (2023)[38]	COVID-19	Case study	Infectious disease forecasting	Compartmental model	Epidemiology-aware AI models	Physics-informed neural networks/Epidemiology-aware AI models
35	Jain K (2023)[39]	Non-specific	General framework	Model parameterization and calibration	Agent/individual-based model	Tree-based methods	Surrogate modeling/syntheticallly-trained AI models
36	Wang H (2023)[40]	COVID-19	Case study	Infectious disease forecasting	Compartmental model	Recurrent neural networks	AI-augmented epidemiological models
37	Liu M (2023)[41]	Influenza-like illness	Case study	Infectious disease forecasting	Metapopulation model	Epidemiology-aware AI models	Physics-informed neural networks/Epidemiology-aware AI models
38	Libin PJ (2021)[42]	Influenza	Specific investigation	Disease intervention assessment and optimization	Metapopulation model	Reinforcement learning	AI-enhanced optimization frameworks
39	Oluwasakin EO (2023)[43]	COVID-19	Specific investigation	Model parameterization and calibration	Compartmental model	Physics-informed neural networks	Physics-informed neural networks/Epidemiology-aware AI models
40	He M (2023)[44]	COVID-19	Specific investigation	Model parameterization and calibration	Compartmental model	Physics-informed neural networks	Physics-informed neural networks/Epidemiology-aware AI models
41	Shah N (2016)[45]	Non-specific	General framework	Disease intervention assessment and optimization	Agent/individual-based model	Tree-based methods; Support vector machines	Surrogate modeling/syntheticallly-trained AI models
42	Luo Y (2023)[46]	Non-specific	General framework	Disease intervention assessment and optimization	Agent/individual-based model	Graph neural networks	Surrogate modeling/syntheticallly-trained AI models
43	De Rosa M (2023)[47]	COVID-19	Specific investigation	Model parameterization and calibration; Infectious disease forecasting	Compartmental model	Physics-informed neural networks	Physics-informed neural networks/Epidemiology-aware AI models

44	Chen Y (2023)[48]	COVID-19	Specific investigation	Infectious disease forecasting	Compartmental model	Recurrent neural networks; Convolutional neural networks	AI-augmented epidemiological models
45	Awasthi R (2022)[49]	COVID-19	Specific investigation	Disease intervention assessment and optimization	Compartmental model	Reinforcement learning	AI-enhanced optimization frameworks
46	Alsmadi MK (2023)[50]	COVID-19	Specific investigation	Infectious disease forecasting	Compartmental model	Neural networks	AI-augmented epidemiological models
47	Fan XR (2022)[51]	COVID-19	Specific investigation	Infectious disease forecasting	Compartmental model	Tree-based methods	AI models incorporating epidemiological input features
48	Sha H (2021)[52]	COVID-19	Case study	Transmission inference	Agent/individual-based model	Graph neural networks	Surrogate modeling/syntheticall y-trained AI models
49	Torku T (2023)[53]	COVID-19	Case study	Model parameterizatio n and calibration; Infectious disease forecasting	Compartmental model	Physics-informed neural networks	Physics-informed neural networks/Epidemiolo gy-aware AI models
50	Song B (2023)[54]	COVID-19	Specific investigation	Disease intervention assessment and optimization	Metapopulation model	Reinforcement learning	AI-enhanced optimization frameworks
51	Padmanabha n R (2021)[55]	COVID-19	Specific investigation	Disease intervention assessment and optimization	Compartmental model	Reinforcement learning	AI-enhanced optimization frameworks
52	Kompella V (2020)[56]	COVID-19	Specific investigation	Disease intervention assessment and optimization	Agent/individual-based model	Reinforcement learning	AI-enhanced optimization frameworks
53	Xu X (2023)[57]	Non-specific	General framework	Transmission inference	Agent/individual-based model	Graph neural networks; Invertible neural networks	Bayesian neural networks
54	Qiu Y (2022)[58]	COVID-19	Case study	Infectious disease forecasting	Compartmental model	Tree-based methods	AI-augmented epidemiological models
55	Mai A (2023)[59]	Non-specific	General framework	Disease intervention assessment and optimization	Compartmental model	Reinforcement learning	AI-enhanced optimization frameworks
56	Berkhahn S (2022)[60]	COVID-19	Specific investigation	Model parameterizatio n and calibration; Infectious disease forecasting	Compartmental model	Physics-informed neural networks	Physics-informed neural networks/Epidemiolo gy-aware AI models
57	Zhan C (2021)[61]	COVID-19	Specific investigation	Infectious disease forecasting	Compartmental model	Recurrent neural networks; Incremental neural networks; Convolutional neural networks; Neural networks	Surrogate modeling/syntheticall y-trained AI models

58	Xuan Y (2021)[62]	COVID-19	Case study	Disease intervention assessment and optimization	Compartmental model	Neural networks	AI-enhanced optimization frameworks
59	Raissi M (2019)[63]	Influenza	Case study	Model parameterization and calibration	Compartmental model	Physics-informed neural networks	Physics-informed neural networks/Epidemiology-aware AI models
60	Nadler P (2020)[64]	COVID-19	Specific investigation	Infectious disease forecasting	Compartmental model	Recurrent neural networks	Ensemble learning frameworks
61	Asikis T (2022)[65]	Non-specific	General framework	Disease intervention assessment and optimization	Agent/individual-based model	Graph neural networks; Reinforcement learning	AI-enhanced optimization frameworks
62	He S (2020)[66]	Non-specific	General framework	Transmission inference; Disease intervention assessment and optimization	Agent/individual-based model	Recurrent neural networks	AI-enhanced optimization frameworks; AI-augmented epidemiological models
63	Laosiritaworn Y (2018)[67]	Non-specific	General framework	Retrospective epidemic course analysis	Agent/individual-based model	Neural networks	Surrogate modeling/synthetically-trained AI models
64	Mu C (2023)[68]	COVID-19	Specific investigation	Infectious disease forecasting	Compartmental model	Recurrent neural networks	AI-augmented epidemiological models
65	Nguyen L (2022)[69]	Influenza	Case study	Model parameterization and calibration	Compartmental model	Physics-informed neural networks	Physics-informed neural networks/Epidemiology-aware AI models
66	Cao Q (2023)[70]	COVID-19	Case study	Infectious disease forecasting	Metapopulation model	Epidemiology-aware AI models	Physics-informed neural networks/Epidemiology-aware AI models
67	Thiagarajan JJ (2022)[71]	Non-specific	General framework	Disease intervention assessment and optimization	Agent/individual-based model	Multilayer perceptron	Surrogate modeling/synthetically-trained AI models
68	Wang L (2021)[72]	COVID-19	Specific investigation	Infectious disease forecasting	Cellular automata model	Recurrent neural networks; Convolutional neural networks	AI-augmented epidemiological models
69	Maniamfu P (2023)[73]	COVID-19	Specific investigation	Infectious disease forecasting	Compartmental model	Recurrent neural networks	Ensemble learning frameworks
70	Roy K (2021)[74]	Non-specific	General framework	Disease intervention assessment and optimization	Agent/individual-based model	Reinforcement learning	AI-enhanced optimization frameworks
71	Gao L (2023)[75]	Non-specific	General framework	Disease intervention assessment and optimization	Agent/individual-based model	Graph neural networks	Surrogate modeling/synthetically-trained AI models
72	Baldo F (2022)[76]	COVID-19	Case study	Model parameterization and calibration	Compartmental model	Neural networks	AI-augmented epidemiological models
73	Ru X (2023)[77]	Non-specific	General framework	Transmission inference	Agent/individual-based model	Graph neural networks	Surrogate modeling/synthetically-trained AI models

74	Harrison G (2023)[78]	Non-specific	General framework	Model parameterization and calibration	Agent/individual-based model	Tree-based methods; Support vector machines	Surrogate modeling/syntheticall y-trained AI models
75	Kharazmi E (2021)[79]	COVID-19	Case study	Model parameterization and calibration; Infectious disease forecasting	Compartmental model	Physics-informed neural networks	Physics-informed neural networks/Epidemiolo gy-aware AI models
76	Arnst M (2022)[80]	COVID-19	Specific investigation	Model parameterization and calibration	Compartmental model	Neural networks	Bayesian neural networks
77	Soemsap T (2014)[81]	Dengue	Specific investigation	Infectious disease forecasting	Cellular automata model	Neural networks	AI-augmented epidemiological models
78	Grimm V (2021)[82]	COVID-19	Case study	Model parameterization and calibration	Compartmental model	Physics-informed neural networks	Physics-informed neural networks/Epidemiolo gy-aware AI models
79	Colas C (2021)[83]	COVID-19	Case study	Disease intervention assessment and optimization	Compartmental model	Reinforcement learning	AI-enhanced optimization frameworks
80	Adiga A (2022)[84]	COVID-19	Specific investigation	Infectious disease forecasting	Compartmental model	Recurrent neural networks	Ensemble learning frameworks
81	Rodríguez A (2023)[85]	COVID-19; Influenza	Case study	Model parameterization and calibration; Infectious disease forecasting	Compartmental model	Recurrent neural networks; Physics-informed neural networks	Physics-informed neural networks/Epidemiolo gy-aware AI models
82	Chen K (2023)[86]	COVID-19	Specific investigation	Disease intervention assessment and optimization	Compartmental model	Neural networks	AI-enhanced optimization frameworks
83	Chopra A (2023)[87]	COVID-19; Influenza	Case study	Model parameterization and calibration; Infectious disease forecasting	Agent/individual-based model	Encoder-decoder models	AI-augmented epidemiological models
84	Yang Y (2020)[88]	COVID-19	Case study	Infectious disease forecasting	Compartmental model	Multilayer perceptron	AI-augmented epidemiological models
85	Madhavan V (2023)[89]	Non-specific	General framework	Model parameterization and calibration	Agent/individual-based model	Convolutional neural networks	Surrogate modeling/syntheticall y-trained AI models
86	Augusta C (2019)[90]	Non-specific	General framework	Model parameterization and calibration	Agent/individual-based model	Recurrent neural networks; Tree-based methods; Multilayer perceptron	Surrogate modeling/syntheticall y-trained AI models
87	Wang D (2021)[91]	COVID-19	Specific investigation	Infectious disease forecasting	Compartmental model	Multilayer perceptron	Surrogate modeling/syntheticall y-trained AI models

88	Čutura G (2021)[92]	Non-specific	General framework	Transmission inference	Agent/individual-based model	Epidemiology-aware AI models	Bayesian neural networks
89	Wu D (2023)[93]	COVID-19	Case study	Model parameterization and calibration	Compartmental model; Metapopulation model	Encoder-decoder models	Surrogate modeling/syntheticall y-trained AI models
90	Shaier S (2022)[94]	COVID-19; HIV; Ebola; Dengue; TB disease; Zika; Smallpox; Pneumonia; Anthrax; Polio; Measles	Case study	Model parameterization and calibration; Infectious disease forecasting	Compartmental model	Physics-informed neural networks	Physics-informed neural networks/Epidemiolo gy-aware AI models
91	Wu W (2022)[95]	COVID-19	Specific investigation	Infectious disease forecasting	Compartmental model	Recurrent neural networks	AI-augmented epidemiological models
92	Lim YS (2015)[96]	Non-specific	General framework	Transmission inference	Agent/individual-based model	Tree-based methods	AI models incorporating epidemiological input features
93	Basinski AJ (2021)[97]	Lassa fever	Specific investigation	Outbreak detection	Compartmental model	Tree-based methods	Epidemiological models with improved observational data
94	Ryder T (2018)[98]	Influenza	Case study	Model parameterization and calibration	Compartmental model	Recurrent neural networks	Bayesian neural networks
95	Bertaglia G (2022)[99]	Non-specific	General framework	Model parameterization and calibration; Infectious disease forecasting	Compartmental model	Physics-informed neural networks	Physics-informed neural networks/Epidemiolo gy-aware AI models
96	Yao S (2022)[100]	Non-specific	General framework	Infectious disease forecasting	Compartmental model	Recurrent neural networks	AI-augmented epidemiological models
97	Jian ZD (2018)[101]	Non-specific	General framework	Disease intervention assessment and optimization	Agent/individual-based model	Multilayer perceptron	Surrogate modeling/syntheticall y-trained AI models
98	Capobianco R (2021)[102]	COVID-19	Specific investigation	Disease intervention assessment and optimization	Agent/individual-based model	Reinforcement learning	AI-enhanced optimization frameworks
99	Solares-Hernández PA (2023)[103]	COVID-19	Specific investigation	Model parameterization and calibration	Agent/individual-based model	Tree-based methods	Epidemiological models with improved observational data
100	Ou HC (2021)[104]	Non-specific	General framework	Disease intervention assessment and optimization	Agent/individual-based model	Reinforcement learning	AI-enhanced optimization frameworks
101	Anirudh R (2022)[105]	Non-specific	General framework	Model parameterization and calibration	Agent/individual-based model	Multilayer perceptron	Surrogate modeling/syntheticall y-trained AI models

102	Sun C (2022)[106]	COVID-19	Specific investigation	Infectious disease forecasting	Compartmental model	Epidemiology-aware AI models	Physics-informed neural networks/Epidemiology-aware AI models
103	Otadi M (2017)[107]	Non-specific	General framework	Infectious disease forecasting	Renewal equation	Epidemiology-aware AI models	Physics-informed neural networks/Epidemiology-aware AI models
104	Jaxa-Rozen M (2018)[108]	Influenza	Case study	Retrospective epidemic course analysis	Compartmental model	Tree-based methods	Surrogate modeling/syntheticall y-trained AI models
105	Trad F (2022)[109]	Non-specific	General framework	Disease intervention assessment and optimization	Agent/individual-based model	Reinforcement learning	AI-enhanced optimization frameworks
106	Amaral F (2021)[110]	COVID-19	Specific investigation	Model parameterizatio n and calibration; Infectious disease forecasting	Compartmental model	Neural networks	AI-augmented epidemiological models
107	Perumal R (2022)[111]	COVID-19	Case study	Model parameterizatio n and calibration	Agent/individual-based model	Tree-based methods; Support vector machines	Surrogate modeling/syntheticall y-trained AI models
108	Xiao S (2021)[112]	COVID-19	Specific investigation	Disease intervention assessment and optimization	Agent/individual-based model	Multilayer perceptron	Surrogate modeling/syntheticall y-trained AI models
109	Gao J (2021)[113]	COVID-19	Case study	Infectious disease forecasting	Compartmental model	Epidemiology-aware AI models	Physics-informed neural networks/Epidemiology-aware AI models
110	Zheng Y (2021)[114]	COVID-19	Specific investigation	Model parameterizatio n and calibration; Infectious disease forecasting	Compartmental model	Epidemiology-aware AI models	Physics-informed neural networks/Epidemiology-aware AI models
111	Jamiluddin MS (2021)[115]	COVID-19	Specific investigation	Model parameterizatio n and calibration	Compartmental model	Physics-informed neural networks	Physics-informed neural networks/Epidemiology-aware AI models
112	Bushaj S (2022)[116]	COVID-19	Specific investigation	Disease intervention assessment and optimization	Agent/individual-based model	Reinforcement learning	AI-enhanced optimization frameworks
113	Amaral F (2021)[117]	COVID-19	Specific investigation	Model parameterizatio n and calibration	Compartmental model	Neural networks	AI-augmented epidemiological models
114	Li C (2021)[118]	Non-specific	General framework	Disease intervention assessment and optimization	Compartmental model	Physics-informed neural networks	AI-enhanced optimization frameworks
115	Bogacsovics G (2021)[119]	COVID-19; Influenza	Case study	Infectious disease forecasting	Compartmental model	Multilayer perceptron	Surrogate modeling/syntheticall y-trained AI models

116	Chadi MA (2022)[120]	COVID-19	Specific investigation	Disease intervention assessment and optimization	Compartmental model	Reinforcement learning	AI-enhanced optimization frameworks
117	Courtès C (2023)[121]	Non-specific	General framework	Disease intervention assessment and optimization	Agent/individual-based model	Multilayer perceptron	AI-enhanced optimization frameworks
118	Zhang G (2021)[122]	COVID-19	Specific investigation	Infectious disease forecasting	Compartmental model	Recurrent neural networks	AI-augmented epidemiological models
119	Wang H (2022)[123]	COVID-19	Specific investigation	Infectious disease forecasting	Compartmental model	Generative adversarial networks; Transformers	Surrogate modeling/syntheticall y-trained AI models
120	Heldmann F (2023)[124]	COVID-19	Case study	Model parameterizatio n and calibration	Compartmental model	Physics-informed neural networks	Physics-informed neural networks/Epidemiolo gy-aware AI models
121	Schiassi E (2021)[125]	Non-specific	General framework	Model parameterizatio n and calibration	Compartmental model	Physics-informed neural networks	Physics-informed neural networks/Epidemiolo gy-aware AI models
122	Guo X (2022)[126]	COVID-19	Specific investigation	Disease intervention assessment and optimization	Agent/individual-based model	Reinforcement learning; Transformers	AI-enhanced optimization frameworks
123	Kulkarni N (2022)[127]	COVID-19	Case study	Disease intervention assessment and optimization	Compartmental model	Reinforcement learning	AI-enhanced optimization frameworks
124	Aurell A (2022)[128]	Non-specific	General framework	Disease intervention assessment and optimization	Compartmental model	Neural networks	AI-enhanced optimization frameworks
125	Deng W (2021)[129]	COVID-19	Specific investigation	Disease intervention assessment and optimization	Compartmental model	Reinforcement learning	AI-enhanced optimization frameworks
126	Hwang YG (2022)[130]	Non-specific	General framework	Disease intervention assessment and optimization	Compartmental model; Agent-based model/Individual -based model	Reinforcement learning	AI-enhanced optimization frameworks
127	Zhao L (2019)[131]	Influenza	Specific investigation	Model parameterizatio n and calibration	Agent/individual-based model	Epidemiology-aware AI models	Physics-informed neural networks/Epidemiolo gy-aware AI models
128	Beerman JT (2023)[132]	COVID-19	Specific investigation	Retrospective epidemic course analysis	Agent/individual-based model	Tree-based methods	Surrogate modeling/syntheticall y-trained AI models
129	Edeling W (2023)[133]	Non-specific	General framework	Retrospective epidemic course analysis	Agent/individual-based model	Neural networks	Surrogate modeling/syntheticall y-trained AI models
130	Ghaffari M (2020)[134]	Zika	Specific investigation	Outbreak detection	Metapopulation model	Natural language processing	Epidemiological models with improved observational data
131	Gaskin T (2023)[135]	Non-specific	General framework	Model parameterizatio n and calibration	Agent/individual-based model	Neural networks	AI-augmented epidemiological models

132	Kmet T (2023)[136]	Non-specific	General framework	Disease intervention assessment and optimization	Compartmental model	Neural networks	AI-enhanced optimization frameworks
133	Wan R (2021)[137]	COVID-19	Case study	Disease intervention assessment and optimization	Compartmental model	Reinforcement learning	AI-enhanced optimization frameworks
134	Laosiritaworn Y (2017)[138]	Non-specific	General framework	Model parameterization and calibration	Agent/individual-based model	Neural networks	Surrogate modeling/synthetically-trained AI models
135	Angeli M (2021)[139]	COVID-19	Specific investigation	Model parameterization and calibration	Compartmental model	Physics-informed neural networks	Physics-informed neural networks/Epidemiology-aware AI models
136	Wyss A (2023)[140]	COVID-19	Specific investigation	Infectious disease forecasting	Compartmental model	Recurrent neural networks	AI-augmented epidemiological models
137	Gadewadikar J (2023)[141]	COVID-19	Case study	Infectious disease forecasting	Compartmental model	Tree-based methods; Support vector machines; Neural networks	AI-augmented epidemiological models
138	Miralles-Pechuán L (2020)[142]	Non-specific	General framework	Disease intervention assessment and optimization	Compartmental model	Reinforcement learning	AI-enhanced optimization frameworks
139	Valtchev SZ (2021)[143]	COVID-19	Specific investigation	Disease intervention assessment and optimization	Agent/individual-based model	Multilayer perceptron	Surrogate modeling/synthetically-trained AI models
140	Kwok WM (2023)[144]	Influenza	Case study	Model parameterization and calibration	Compartmental model	Physics-informed neural networks	Surrogate modeling/synthetically-trained AI models
141	Zisad SN (2021)[145]	COVID-19	Specific investigation	Infectious disease forecasting	Compartmental model	Recurrent neural networks	AI-augmented epidemiological models
142	Zhang Z (2023)[146]	Brucellosis	Specific investigation	Retrospective epidemic course analysis	Compartmental model	Tree-based methods	Surrogate modeling/synthetically-trained AI models
143	Dadgostari F (2022)[147]	Non-specific	General framework	Retrospective epidemic course analysis	Agent/individual-based model	Tree-based methods; Neural networks	Surrogate modeling/synthetically-trained AI models
144	Long J (2021)[148]	COVID-19	Specific investigation	Model parameterization and calibration; Infectious disease forecasting	Compartmental model	Recurrent neural networks; Physics-informed neural networks	Physics-informed neural networks/Epidemiology-aware AI models; AI-augmented epidemiological models
145	Merkelbach K (2022)[149]	COVID-19	Case study	Infectious disease forecasting	Compartmental model	Recurrent neural networks	AI-augmented epidemiological models
146	Muñoz L (2022)[150]	COVID-19	Case study	Infectious disease forecasting	Compartmental model	Recurrent neural networks	AI-augmented epidemiological models
147	Castillo Ossa LF (2021)[151]	COVID-19	Specific investigation	Infectious disease forecasting	Compartmental model	Recurrent neural networks	AI-augmented epidemiological models

148	Rahmadani F (2020)[152]	COVID-19	Specific investigation	Model parameterization and calibration	Metapopulation model	Recurrent neural networks; Neural networks	AI-augmented epidemiological models
149	Bertsimas D (2021)[153]	COVID-19	Specific investigation	Disease intervention assessment and optimization	Compartmental model	Tree-based methods	AI-augmented epidemiological models
150	Aurell A (2022)[154]	Non-specific	General framework	Disease intervention assessment and optimization	Agent/individual-based model	Neural networks	AI-enhanced optimization frameworks
151	Rosato C (2023)[155]	COVID-19	Specific investigation	Model parameterization and calibration	Compartmental model	Support vector machines; Natural language processing	Epidemiological models with improved observational data
152	Spear RC (2020)[156]	Dengue	Case study	Retrospective epidemic course analysis	Compartmental model	Tree-based methods	Surrogate modeling/syntheticall y-trained AI models
153	Ning X (2022)[157]	COVID-19	Case study	Model parameterization and calibration	Compartmental model	Physics-informed neural networks	Physics-informed neural networks/Epidemiolo gy-aware AI models
154	Song P (2022)[158]	COVID-19	Case study	Model parameterization and calibration	Compartmental model	Neural networks	AI-augmented epidemiological models
155	Bampa M (2022)[159]	COVID-19	Case study	Disease intervention assessment and optimization	Compartmental model	Reinforcement learning	AI-enhanced optimization frameworks
156	La Gatta V (2021)[160]	COVID-19	Specific investigation	Model parameterization and calibration	Compartmental model	Recurrent neural networks; Graph neural networks	AI-augmented epidemiological models
157	Ma J (2022)[161]	COVID-19	Case study	Model parameterization and calibration; Infectious disease forecasting	Compartmental model	Epidemiology-aware AI models	Physics-informed neural networks/Epidemiolo gy-aware AI models
158	Shami L (2022)[162]	Non-specific	General framework	Disease intervention assessment and optimization	Agent/individual-based model	Reinforcement learning	AI-enhanced optimization frameworks
159	Du X (2022)[163]	COVID-19	Case study	Disease intervention assessment and optimization	Compartmental model	Reinforcement learning	AI-enhanced optimization frameworks
160	Malinzi J (2022)[164]	COVID-19	Specific investigation	Model parameterization and calibration; Infectious disease forecasting	Compartmental model	Physics-informed neural networks	Physics-informed neural networks/Epidemiolo gy-aware AI models
161	Benalcázar DR (2021)[165]	Non-specific	General framework	Disease intervention assessment and optimization	Agent/individual-based model	Reinforcement learning	AI-enhanced optimization frameworks

162	Murphy C (2021)[166]	COVID-19	Case study	Infectious disease forecasting	Agent-based model/Individual-based model; Metapopulation model	Graph neural networks	Surrogate modeling/synthetically-trained AI models
163	Ghamizi S (2020)[167]	COVID-19	Specific investigation	Disease intervention assessment and optimization	Compartmental model	Recurrent neural networks; Tree-based methods; Neural networks	AI-augmented epidemiological models
164	Jiang R (2021)[168]	COVID-19	Specific investigation	Infectious disease forecasting	Metapopulation model	Encoder-decoder models	AI-augmented epidemiological models
165	Xia M (2022)[169]	Non-specific	General framework	Disease intervention assessment and optimization	Compartmental model	Reinforcement learning	AI-enhanced optimization frameworks
166	Michalak K (2022)[170]	Non-specific	General framework	Disease intervention assessment and optimization	Agent/individual-based model	Support vector machines; Multilayer perceptron	Surrogate modeling/synthetically-trained AI models
167	Wang L (2022)[171]	COVID-19	Case study	Infectious disease forecasting	Compartmental model	Epidemiology-aware AI models	Physics-informed neural networks/Epidemiology-aware AI models
168	Nguyen C (2022)[172]	COVID-19	Specific investigation	Infectious disease forecasting	Compartmental model	Epidemiology-aware AI models	Physics-informed neural networks/Epidemiology-aware AI models
169	Aronis JM (2017)[173]	Influenza	Case study	Outbreak detection	Compartmental model	Natural language processing	Epidemiological models with improved observational data
170	Li C (2023)[174]	COVID-19	Case study	Model parameterization and calibration	Compartmental model	Multilayer perceptron	AI-augmented epidemiological models
171	Yasami A (2022)[175]	Non-specific	General framework	Infectious disease forecasting	Compartmental model	Recurrent neural networks	AI-augmented epidemiological models
172	Edali M (2020)[176]	Influenza	Specific investigation	Retrospective epidemic course analysis	Agent/individual-based model	Tree-based methods	Surrogate modeling/synthetically-trained AI models
173	Fountain-Jones NM (2023)[177]	Non-specific	General framework	Retrospective epidemic course analysis	Agent/individual-based model	Tree-based methods; Support vector machines	Surrogate modeling/synthetically-trained AI models
174	Huang D (2021)[178]	Influenza	Specific investigation	Retrospective epidemic course analysis	Agent/individual-based model	Multilayer perceptron	Surrogate modeling/synthetically-trained AI models
175	Liao Z (2021)[179]	COVID-19	Specific investigation	Infectious disease forecasting	Compartmental model	Recurrent neural networks	AI-augmented epidemiological models
176	Ruth W (2022)[180]	COVID-19	Specific investigation	Retrospective epidemic course analysis	Compartmental model	Tree-based methods	Surrogate modeling/synthetically-trained AI models
177	Zhao G (2020)[181]	Non-specific	General framework	Disease intervention assessment and optimization	Agent/individual-based model	Graph neural networks	Surrogate modeling/synthetically-trained AI models

178	Kandula S (2019)[182]	Influenza	Specific investigation	Model parameterization and calibration	Compartmental model	Tree-based methods	Epidemiological models with improved observational data
179	Delli Compagni R (2022)[183]	COVID-19	Specific investigation	Infectious disease forecasting	Compartmental model	Neural networks	Ensemble learning frameworks
180	Bertozzi-Villa A (2023)[184]	Malaria	Specific investigation	Disease intervention assessment and optimization	Agent/individual-based model	Clustering; K-nearest neighbors	Cluster-based transmission analysis frameworks
181	Malloy GS (2022)[185]	Plague	Case study	Disease intervention assessment and optimization	Compartmental model	Tree-based methods; Multilayer perceptron	Surrogate modeling/syntheticall y-trained AI models
182	Lutz CB (2021)[186]	COVID-19	Specific investigation	Model parameterization and calibration	Agent/individual-based model	Tree-based methods	Surrogate modeling/syntheticall y-trained AI models
183	Davis CN (2020)[187]	Non-specific	General framework	Model parameterization and calibration	Agent/individual-based model	Neural networks	Surrogate modeling/syntheticall y-trained AI models
184	Zhang T (2021)[188]	COVID-19	Specific investigation	Infectious disease forecasting	Compartmental model	Recurrent neural networks; Graph neural networks; Convolutional neural networks	Surrogate modeling/syntheticall y-trained AI models
185	He M (2023)[189]	COVID-19	Specific investigation	Model parameterization and calibration	Compartmental model	Physics-informed neural networks	Physics-informed neural networks/Epidemiolo gy-aware AI models
186	Pokharel G (2014)[190]	Tomato spotted wilt virus infection	Case study	Model parameterization and calibration	Agent/individual-based model	Tree-based methods	Surrogate modeling/syntheticall y-trained AI models
187	Santermans E (2015)[191]	Varicella zoster virus infection	Specific investigation	Retrospective epidemic course analysis	Compartmental model	Tree-based methods	Surrogate modeling/syntheticall y-trained AI models
188	Sun H (2022)[192]	Dengue	Specific investigation	Disease intervention assessment and optimization	Agent/individual-based model	Tree-based methods	Surrogate modeling/syntheticall y-trained AI models
189	Khatami SN (2021)[193]	HIV	Specific investigation	Disease intervention assessment and optimization	Agent/individual-based model	Reinforcement learning	AI-enhanced optimization frameworks
190	Zong K (2022)[194]	COVID-19	Specific investigation	Disease intervention assessment and optimization	Agent/individual-based model	Reinforcement learning	AI-enhanced optimization frameworks
191	Jung SY (2020)[195]	COVID-19	Specific investigation	Model parameterization and calibration	Compartmental model	Physics-informed neural networks	Physics-informed neural networks/Epidemiolo gy-aware AI models
192	Liu D (2020)[196]	COVID-19	Specific investigation	Infectious disease forecasting	Agent/individual-based model	Clustering	Cluster-based transmission analysis frameworks

193	He Z (2022)[197]	COVID-19	Specific investigation	Model parameterization and calibration; Infectious disease forecasting	Compartmental model	Neural networks	AI-augmented epidemiological models
194	Zang X (2020)[198]	HIV	Specific investigation	Disease intervention assessment and optimization	Compartmental model	Neural networks	Surrogate modeling/synthetically-trained AI models
195	Zheng N (2020)[199]	COVID-19	Specific investigation	Infectious disease forecasting	Compartmental model	Recurrent neural networks; Natural language processing	AI-augmented epidemiological models
196	Ning X (2023)[200]	COVID-19	Specific investigation	Model parameterization and calibration	Compartmental model	Physics-informed neural networks	Physics-informed neural networks/Epidemiology-aware AI models
197	Colijn C (2014)[201]	TB disease	Case study	Transmission inference	Agent/individual-based model	Support vector machines; K-nearest neighbors	Surrogate modeling/synthetically-trained AI models
198	Watson GL (2021)[202]	COVID-19	Specific investigation	Infectious disease forecasting	Compartmental model	Tree-based methods	AI-augmented epidemiological models
199	Radev ST (2021)[203]	COVID-19	Specific investigation	Model parameterization and calibration	Compartmental model	Recurrent neural networks; Convolutional neural networks	Bayesian neural networks
200	Janko V (2023)[204]	COVID-19	Specific investigation	Disease intervention assessment and optimization	Compartmental model	Tree-based methods; Support vector machines	AI-augmented epidemiological models
201	Yin S (2023)[205]	COVID-19	Case study	Disease intervention assessment and optimization; Model parameterization and calibration; Infectious disease forecasting	Compartmental model	Neural networks	AI-enhanced optimization frameworks; AI-augmented epidemiological models
202	Yao Y (2023)[206]	COVID-19	Specific investigation	Disease intervention assessment and optimization	Compartmental model	Reinforcement learning	AI-enhanced optimization frameworks
203	Liu XD (2023)[207]	COVID-19	Specific investigation	Infectious disease forecasting	Compartmental model	Recurrent neural networks	AI-augmented epidemiological models
204	Hu H (2022)[208]	COVID-19	Specific investigation	Model parameterization and calibration	Compartmental model	Physics-informed neural networks	Physics-informed neural networks/Epidemiology-aware AI models
205	Sanson RL (2022)[209]	Foot-and-mouth disease	Specific investigation	Retrospective epidemic course analysis	Agent/individual-based model	Tree-based methods	Surrogate modeling/synthetically-trained AI models
206	Viet AF (2018)[210]	Porcine Reproductive and Respiratory Syndrome	Case study	Disease intervention assessment and optimization	Compartmental model	Tree-based methods	Surrogate modeling/synthetically-trained AI models

207	Cooper GF (2014)[211]	Influenza	Case study	Outbreak detection	Compartmental model	Natural language processing	Epidemiological models with improved observational data
208	Dandekar R (2020)[212]	COVID-19	Specific investigation	Model parameterization and calibration	Compartmental model	Multilayer perceptron	AI-augmented epidemiological models
209	Kondapalli AR (2021)[213]	COVID-19	Specific investigation	Infectious disease forecasting	Agent/individual-based model	Tree-based methods	Surrogate modeling/synthetically-trained AI models
210	Petrica M (2023)[214]	COVID-19	Case study	Model parameterization and calibration; Infectious disease forecasting	Compartmental model	Neural networks	AI-augmented epidemiological models; Surrogate modeling/synthetically-trained AI models
211	Han BA (2020)[215]	Rodent-borne zoonoses	Case study	Outbreak detection	Compartmental model	Tree-based methods	Epidemiological models with improved observational data
212	Saulnier E (2017)[216]	Ebola	Case study	Model parameterization and calibration	Compartmental model	Neural networks	Bayesian neural networks
213	Dandekar R (2021)[217]	COVID-19	Specific investigation	Model parameterization and calibration	Compartmental model	Multilayer perceptron	AI-augmented epidemiological models
214	Wang X (2022)[218]	COVID-19	Case study	Infectious disease forecasting	Compartmental model	Tree-based methods	AI-augmented epidemiological models
215	Du X (2023)[219]	COVID-19	Case study	Disease intervention assessment and optimization	Compartmental model	Reinforcement learning	AI-enhanced optimization frameworks
216	Alauddin M (2020)[220]	COVID-19	Case study	Model parameterization and calibration	Compartmental model	Neural networks	AI-augmented epidemiological models
217	Yaesoubi R (2023)[221]	COVID-19	Specific investigation	Outbreak detection	Compartmental model	Tree-based methods	Surrogate modeling/synthetically-trained AI models
218	Nguyen QD (2022)[222]	COVID-19	Case study	Disease intervention assessment and optimization	Agent/individual-based model	Reinforcement learning	AI-enhanced optimization frameworks
219	Wang X (2022)[223]	COVID-19	Specific investigation	Infectious disease forecasting	Compartmental model	Tree-based methods	AI-augmented epidemiological models
220	Ning X (2023)[224]	COVID-19	Specific investigation	Model parameterization and calibration	Compartmental model	Physics-informed neural networks	Physics-informed neural networks/Epidemiology-aware AI models
221	Reiker T (2021)[225]	Malaria	Specific investigation	Model parameterization and calibration	Agent/individual-based model	Tree-based methods; Neural networks	Surrogate modeling/synthetically-trained AI models

222	Jørgensen AC (2022)[226]	Non-specific	General framework	Model parameterization and calibration	Agent/individual-based model	Mixture density networks; Neural networks	Surrogate modeling/synthetically-trained AI models
223	Weyant C (2022)[227]	COVID-19; Smallpox; Pertussis; SARS	Case study	Retrospective epidemic course analysis	Compartmental model	Tree-based methods; Neural networks	Surrogate modeling/synthetically-trained AI models
224	Deng Q (2020)[228]	COVID-19	Specific investigation	Infectious disease forecasting	Compartmental model	Recurrent neural networks; Neural networks	AI-augmented epidemiological models
225	Eisenberg JN (2004)[229]	Enterovirus infection	Case study	Retrospective epidemic course analysis	Compartmental model	Tree-based methods	Surrogate modeling/synthetically-trained AI models
226	Nsoesie EO (2014)[230]	Influenza	Case study	Model parameterization and calibration	Agent/individual-based model	Clustering	Surrogate modeling/synthetically-trained AI models
227	Quilodrán-Casas C (2021)[231]	COVID-19	Specific investigation	Infectious disease forecasting	Compartmental model	Recurrent neural networks; Generative adversarial networks	Surrogate modeling/synthetically-trained AI models
228	Kim J (2021)[232]	COVID-19	Specific investigation	Infectious disease forecasting	Compartmental model	Tree-based methods	AI-augmented epidemiological models
229	Badfar E (2021)[233]	COVID-19	Specific investigation	Model parameterization and calibration	Compartmental model	Recurrent neural networks	AI-augmented epidemiological models
230	Gupta A (2023)[234]	COVID-19	Specific investigation	Infectious disease forecasting	Compartmental model	Recurrent neural networks; Multilayer perceptron; Natural language processing	AI-augmented epidemiological models
231	Bousquet A (2022)[235]	COVID-19	Specific investigation	Infectious disease forecasting	Compartmental model	Recurrent neural networks	AI-augmented epidemiological models
232	Pereira FH (2021)[236]	Non-specific	General framework	Model parameterization and calibration	Cellular automata model	Neural networks	Surrogate modeling/synthetically-trained AI models
233	Böttcher L (2021)[237]	COVID-19	Specific investigation	Disease intervention assessment and optimization	Compartmental model	Tree-based methods	Surrogate modeling/synthetically-trained AI models
234	Olumoyin KD (2021)[238]	COVID-19	Specific investigation	Model parameterization and calibration	Compartmental model	Physics-informed neural networks	Physics-informed neural networks/Epidemiology-aware AI models
235	Feng L (2022)[239]	COVID-19	Specific investigation	Infectious disease forecasting	Compartmental model	Recurrent neural networks	AI-augmented epidemiological models
236	Silva VL (2023)[240]	Non-specific	General framework	Model parameterization and calibration; Infectious disease forecasting	Compartmental model	Generative adversarial networks	Surrogate modeling/synthetically-trained AI models
237	Markovic S (2021)[241]	COVID-19	Specific investigation	Retrospective epidemic course analysis	Compartmental model	Tree-based methods	Surrogate modeling/synthetically-trained AI models

238	Taylor NP (2023)[242]	Zymoseptoria tritici infection	Specific investigation	Disease intervention assessment and optimization	Compartmental model	Tree-based methods	Surrogate modeling/synthetically-trained AI models
239	Ding Z (2023)[243]	COVID-19	Case study	Infectious disease forecasting	Compartmental model	Recurrent neural networks	AI-augmented epidemiological models
240	Kmet T (2019)[244]	Non-specific	General framework	Disease intervention assessment and optimization	Compartmental model	Recurrent neural networks	AI-enhanced optimization frameworks
241	Nguyen DQ (2022)[245]	COVID-19	Specific investigation	Infectious disease forecasting	Compartmental model	Epidemiology-aware AI models	Physics-informed neural networks/Epidemiology-aware AI models
242	Khan JI (2022)[246]	COVID-19	Specific investigation	Infectious disease forecasting	Compartmental model	Recurrent neural networks; Generative adversarial networks; Convolutional neural networks; Deconvolutional neural networks; Multilayer perceptron	AI-augmented epidemiological models
243	Wu JW (2022)[247]	COVID-19	Specific investigation	Disease intervention assessment and optimization	Compartmental model	Tree-based methods	AI-augmented epidemiological models
244	Beigi A (2021)[248]	COVID-19	Specific investigation	Disease intervention assessment and optimization	Compartmental model	Reinforcement learning	AI-enhanced optimization frameworks
245	Kumaresan M (2022)[249]	COVID-19	Specific investigation	Infectious disease forecasting	Compartmental model	Federated learning	AI-augmented epidemiological models

*Overviews of the AI techniques employed in integrated models and their methodological frameworks can be found in Appendices 15–16. The detailed methodological framework for each study can be found in Appendices 7–12.

Appendix 6. Number of studies satisfying the inclusion criteria, stratified by infectious diseases and application areas

	Infectious disease forecasting	Model parameterization and calibration	Disease intervention assessment and optimization	Retrospective epidemic course analysis	Transmission inference	Outbreak detection	Total
COVID-19	76	52	31	4	2	2	148
Non-specific	5	13	31	4	6	0	56
Influenza	3	11	1	3	0	2	18
Dengue	2	1	1	1	0	0	4
HIV	1	1	2	0	0	0	3
TB disease	1	1	0	0	1	0	2
Malaria	0	1	2	0	0	0	3
Foot-and-mouth disease	1	0	1	1	0	0	3
Ebola	1	2	0	0	0	0	2
Zika	1	1	0	0	0	1	2
Smallpox	1	1	0	1	0	0	2
Influenza-like illness	3	0	0	0	0	0	3
Pneumonia	1	1	0	0	0	0	1
Anthrax	1	1	0	0	0	0	1
Polio	1	1	0	0	0	0	1
Measles	1	1	0	0	0	0	1
Plague	0	0	1	0	0	0	1
Porcine Reproductive and Respiratory Syndrome	0	0	1	0	0	0	1
Zymoseptoria tritici infection	0	0	1	0	0	0	1
Tomato spotted wilt virus infection	0	1	0	0	0	0	1
Lassa fever	0	0	0	0	0	1	1
Rodent-borne zoonoses	0	0	0	0	0	1	1

Brucellosis	0	0	0	1	0	0	1
Varicella zoster virus infection	0	0	0	1	0	0	1
Pertussis	0	0	0	1	0	0	1
SARS	0	0	0	1	0	0	1
Enterovirus infection	0	0	0	1	0	0	1
Total	86	77	72	16	9	7	

Appendix 7. Studies focusing on infectious disease forecasting, stratified by detailed methodological frameworks and integration approaches

Detailed methodological framework	Integration approach	Studies*	Number of studies (n =)
Ensemble learning frameworks	Combining AI and epidemiological models through ensemble modeling frameworks	#13; #17; #60; #69; #80; #179	6
Clustered predictive models trained on datasets generated by epidemiological models	Integrating epidemiological knowledge into AI models	#192	1
AI models incorporating epidemiological input features	Integrating epidemiological knowledge into AI models	#47	1
Key indicator-guided forecasting based on synthetically-trained tree-based methods	Training AI models using data generated from epidemiological models	#14; #209	2
Physics-informed neural networks	Integrating epidemiological knowledge into AI models; Using AI models to learn unknown components of epidemiological models	#16; #43; #49; #56; #75; #81; #90; #95; #160	9
Epidemiology-aware AI models	Integrating epidemiological knowledge into AI models	#34; #103	2
	Integrating epidemiological knowledge into AI models; Using AI models to learn unknown components of epidemiological models	#37; #66; #102; #109; #110; #157; #167; #168; #241	9
Synthetically-trained AI models	Training AI models using data generated from epidemiological models	#23; #57; #87; #115; #119; #162; #184; #227; #236	9
AI-augmented epidemiological models trained in an end-to-end manner	Integrating epidemiological knowledge into AI models; Using AI models to learn unknown components of epidemiological models	#15; #36; #83; #84; #106; #193; #201	7
	Integrating epidemiological knowledge into AI models; Using AI models to enhance observational data	#33	1

AI-augmented epidemiological models trained in a supervised manner	Training AI models using data generated from epidemiological models; Using AI models to learn unknown components of epidemiological models	#210	1
	Using AI models to learn unknown components of epidemiological models	#19; #20; #21; #22; #24; #44; #46; #54; #64; #68; #91; #96; #118; #136; #137; #141; #145; #146; #147; #164; #171; #175; #195; #198; #203; #214; #219; #224; #228; #230; #231; #235; #239; #242; #245	35
	Integrating epidemiological knowledge into AI models; Using AI models to learn unknown components of epidemiological models	#144	1
AI-augmented epidemiological models	Using AI models to learn unknown components of epidemiological models	#31; #77	2

*Study numbers presented here correspond to the study numbers in Appendix 5 that provides detailed characteristics for each study.

Appendix 8. Studies focusing on model parameterization and calibration, stratified by detailed methodological frameworks and integration approaches

Detailed methodological framework	Integration approach	Studies*	Number of studies (n =)
Model parameterization and calibration using improved observational data	Using AI models to enhance observational data	#25; #99; #151; #178	4
Surrogate modeling-based calibration	Training AI models using data generated from epidemiological models	#101; #107; #221; #222; #236	5
	Training AI models using data generated from epidemiological models; Using AI models to learn unknown components of epidemiological models; Integrating epidemiological knowledge into AI models	#140	1
Surrogate modeling	Training AI models using data generated from epidemiological models	#35; #85; #89; #134; #182; #183; #232	7
Synthetically-trained scenario classifiers	Training AI models using data generated from epidemiological models; Using AI models to learn unknown components of epidemiological models	#12; #74; #86; #186; #226	5
Direct parameter calibration based on physics-informed neural networks	Using AI models to learn unknown components of epidemiological models; Integrating epidemiological knowledge into AI models	#7; #16; #18; #32; #39; #40; #43; #49; #56; #59; #65; #75; #78; #81; #90; #95; #111; #120; #121; #135; #144; #153; #160; #185; #191; #196; #204; #220; #234	29
Direct parameter calibration based on epidemiology-aware AI models	Using AI models to learn unknown components of epidemiological models; Integrating epidemiological knowledge into AI models	#110; #127; #157	3
Direct parameter calibration based on AI-augmented epidemiological models	Using AI models to learn unknown components of epidemiological models; Integrating epidemiological knowledge into AI models	#9; #15; #72; #83; #106; #113; #131; #148; #154; #156; #170; #193; #201; #208; #213; #216	16
	Integrating epidemiological knowledge into AI models; Using AI models to enhance observational data	#33	1
	Using AI models to learn unknown components of epidemiological models	#229	1

Direct parameter calibration based on Bayesian neural networks	Training AI models using data generated from epidemiological models; Using AI models to learn unknown components of epidemiological models	#76; #94; #199; #212	4
Direct parameter calibration based on synthetically-trained neural networks	Training AI models using data generated from epidemiological models; Using AI models to learn unknown components of epidemiological models	#210; #222	2

*Study numbers presented here correspond to the study numbers in Appendix 5 that provides detailed characteristics for each study.

Appendix 9. Studies focusing on disease intervention assessment and optimization, stratified by sub-application areas, detailed methodological frameworks, and integration approaches

Sub-application area	Detailed methodological framework	Integration approach	Studies*	Number of studies (n =)
Intervention assessment	Surrogate modeling	Training AI models using data generated from epidemiological models	#67; #97; #108; #139; #181; #188; #194	7
	AI-augmented epidemiological models	Using AI models to learn unknown components of epidemiological models	#149; #163; #200; #243	4
	Cluster-based assessment	Decomposing large-scale epidemiological models using AI models	#180	1
	Game theory-based frameworks	Using AI models to find optimal decisions under dynamic disease spreading processes	#150	1
Intervention optimization	Game theory-based frameworks	Using AI models to find optimal decisions under dynamic disease spreading processes	#58; #124	2
	Reinforcement learning-based frameworks	Using AI models to find optimal decisions under dynamic disease spreading processes	#3; #6; #8; #10; #26; #28; #29; #38; #45; #50; #51; #52; #55; #61; #70; #79; #98; #100; #105; #112; #116; #122; #123; #125; #126; #133; #138; #155; #158; #159; #161; #165; #189; #190; #202; #215; #218; #244	38
	Key node finding methods based on AI-augmented epidemiological models	Using AI models to find optimal decisions under dynamic disease spreading processes; Using AI models to learn unknown components of epidemiological models; Integrating epidemiological knowledge into AI models	#62	1
	Key node finding methods based on synthetically-trained AI models	Training AI models using data generated from epidemiological models	#4; #5; #11; #27; #41; #42; #71; #166; #177	9
	Optimal control theory-based	Training AI models using data generated from epidemiological	#117	1

	frameworks	models		
		Using AI models to find optimal decisions under dynamic disease spreading processes; Integrating epidemiological knowledge into AI models	#61; #114; #132; #201; #240	5
	Markov decision process-based frameworks	Using AI models to find optimal decisions under dynamic disease spreading processes	#82	1
	Surrogate modeling	Training AI models using data generated from epidemiological models	#206; #233; #238	3

*Study numbers presented here correspond to the study numbers in Appendix 5 that provides detailed characteristics for each study.

Appendix 10. Studies focusing on retrospective epidemic course analysis, stratified by sub-application areas, detailed methodological frameworks, and integration approaches

Sub-application area	Detailed methodological framework	Integration approach	Studies*	Number of studies (n =)
Identifying key factors governing transmission dynamics of infectious diseases	Surrogate modeling	Training AI models using data generated from epidemiological models	#63; #104; #129; #142; #152; #172; #173; #174; #176; #187; #205; #223; #225; #237	14
Understanding individual decision-making processes during epidemics	Surrogate modeling	Training AI models using data generated from epidemiological models	#128; #143	2

*Study numbers presented here correspond to the study numbers in Appendix 5 that provides detailed characteristics for each study.

Appendix 11. Studies focusing on transmission inference, stratified by sub-application areas, detailed methodological frameworks, and integration approaches

Sub-application area	Detailed methodological framework	Integration approach	Studies*	Number of studies (n =)
Source localization	Bayesian neural networks	Training AI models using data generated from epidemiological models	#2; #53	2
	Synthetically-trained graph neural networks	Training AI models using data generated from epidemiological models	#48	1
		Training AI models using data generated from epidemiological models; Integrating epidemiological knowledge into AI models	#73	1
Determining the underlying transmission network/pattern	Optimal control theory-based frameworks	Using AI models to find optimal decisions under dynamic disease spreading processes; Using AI models to learn unknown components of epidemiological models; Integrating epidemiological knowledge into AI models	#62	1
	Synthetically-trained classifiers	Training AI models using data generated from epidemiological models	#197	1
Inferring the health status of unobserved individuals	Classifiers incorporating epidemiological input features	Integrating epidemiological knowledge into AI models	#92	1
Reconstructing disease evolution dynamics	Bayesian neural networks	Training AI models using data generated from epidemiological models; Integrating epidemiological knowledge into AI models	#88	1
Inferring incidence from death records	Epidemiology-aware AI models	Integrating epidemiological knowledge into AI models	#1	1

*Study numbers presented here correspond to the study numbers in Appendix 5 that provides detailed characteristics for each study.

Appendix 12. Studies focusing on outbreak detection, stratified by detailed methodological frameworks and integration approaches

Detailed methodological framework	Integration approach	Studies*	Number of studies (n =)
Classifiers incorporating epidemiological input features	Integrating epidemiological knowledge into AI models	#30	1
Synthetically-trained classifiers	Training AI models using data generated from epidemiological models	#217	1
Epidemiological models parameterized by improved observational data	Using AI models to enhance observational data	#93; #130; #211	3
Epidemiological model selection based on improved observational data	Using AI models to enhance observational data	#169; #207	2

*Study numbers presented here correspond to the study numbers in Appendix 5 that provides detailed characteristics for each study.

Appendix 13. Quality of studies satisfying the inclusion criteria

Study #	First author (Publication year)	Publication type	Publication	The 2022 journal impact factor	Subject domain (Quartile)	h5-index in Google Scholar (2018–2022)	Number of citations in Web of Science as of 2024-11-13
1	Vilar JM (2023)	Peer-reviewed journals	Science Advances	13.6	MULTIDISCIPLINARY SCIENCES - SCIE (Q1)	212	2
2	Ling C (2022)	Proceedings of conferences/workshops/symposiums	The 28th ACM SIGKDD Conference on Knowledge Discovery and Data Mining	-	-	129	-
3	Zou L (2021)	Proceedings of conferences/workshops/symposiums	Proceedings of the 30th International Joint Conference on Artificial Intelligence	-	-	133	-
4	Zhang M (2022)	Peer-reviewed journals	Neurocomputing	6	COMPUTER SCIENCE, ARTIFICIAL INTELLIGENCE - SCIE (Q2)	135	21
5	Yu EY (2020)	Peer-reviewed journals	Knowledge-Based Systems	8.8	COMPUTER SCIENCE, ARTIFICIAL INTELLIGENCE - SCIE (Q1)	120	81
6	Vereshchaka A (2021)	Proceedings of conferences/workshops/symposiums	The 14th International Conference on Social Computing, Behavioral-Cultural Modeling and Prediction and Behavior Representation in Modeling and Simulation	-	-	17	-
7	Torku TK (2021)	Peer-reviewed journals	Epidemiologia	-	-	-	-
8	Song S (2020)	Proceedings of conferences/workshops/symposiums	The 26th ACM SIGKDD International Conference on Knowledge Discovery and Data Mining-"AI For Covid-19" Initiative	-	-	-	-
9	Salman AM (2021)	Peer-reviewed journals	Computers in Biology and Medicine	7.7	ENGINEERING, BIOMEDICAL - SCIE (Q1); MATHEMATICAL & COMPUTATIONAL BIOLOGY - SCIE (Q1); BIOLOGY - SCIE (Q1); COMPUTER SCIENCE, INTERDISCIPLINARY APPLICATIONS - SCIE (Q1)	92	34
10	Probert WJ (2019)	Peer-reviewed journals	Philosophical Transactions of the Royal Society B	6.3	BIOLOGY - SCIE (Q1)	94	15

11	Ou Y (2022)	Peer-reviewed journals	Expert Systems with Applications	8.5	OPERATIONS RESEARCH & MANAGEMENT SCIENCE - SCIE (Q1); COMPUTER SCIENCE, ARTIFICIAL INTELLIGENCE - SCIE (Q1); ENGINEERING, ELECTRICAL & ELECTRONIC - SCIE (Q1)	148	23
12	Nsoesie EO (2011)	Peer-reviewed journals	Statistical communications in infectious diseases	-	-	-	-
13	Kandula S (2018)	Peer-reviewed journals	Journal of the Royal Society Interface	3.9	MULTIDISCIPLINARY SCIENCES - SCIE (Q2)	60	36
14	Garner MG (2016)	Peer-reviewed journals	Frontiers in Veterinary Science	3.2	VETERINARY SCIENCES - SCIE (Q1)	71	15
15	Bhouri MA (2021)	Peer-reviewed journals	Computer Methods in Applied Mechanics and Engineering	7.2	MATHEMATICS, INTERDISCIPLINARY APPLICATIONS - SCIE (Q1); MECHANICS - SCIE (Q1); ENGINEERING, MULTIDISCIPLINARY - SCIE (Q1)	97	27
16	Barmparis GD (2022)	Peer-reviewed journals	Quantitative Biology	3.1	MATHEMATICAL & COMPUTATIONAL BIOLOGY - ESCI (-)	17	1
17	Adiga A (2021)	Proceedings of conferences/workshops/symposiums	The 27th ACM SIGKDD Conference on Knowledge Discovery and Data Mining	-	-	129	15
18	Ghosh S (2023)	Peer-reviewed journals	PLoS ONE	3.7	MULTIDISCIPLINARY SCIENCES - SCIE (Q2)	212	-
19	Liu X (2023)	Proceedings of conferences/workshops/symposiums	The 35th Chinese Control and Decision Conference	-	-	25	-
20	Rahnsch B (2023)	Peer-reviewed journals	Journal of Theoretical Biology	2	MATHEMATICAL & COMPUTATIONAL BIOLOGY - SCIE (Q3); BIOLOGY - SCIE (Q3)	53	2
21	Kumar N (2023)	Proceedings of conferences/workshops/symposiums	The 14th International Conference on Computing Communication and Networking Technologies	-	-	30	-
22	Ji J (2023)	Peer-reviewed journals	Mathematical Biosciences	4.3	BIOLOGY - SCIE (Q2); MATHEMATICAL & COMPUTATIONAL BIOLOGY - SCIE (Q1)	34	2
23	Wang L (2020)	Peer-reviewed journals	ACM Transactions on Spatial Algorithms and Systems (TSAS)	1.9	REMOTE SENSING - ESCI (-)	16	17
24	Vega R (2022)	Peer-reviewed journals	Forecasting	3	MULTIDISCIPLINARY SCIENCES - ESCI (-)	18	18

25	Tuarob S (2015)	Proceedings of conferences/workshops/symposiums	The 24th ACM International Conference on Information and Knowledge Management	-	-	79	-
26	Ohi AQ (2020)	Peer-reviewed journals	Scientific Reports	4.6	MULTIDISCIPLINARY SCIENCES - SCIE (Q2)	210	-
27	Mežnar S (2020)	Proceedings of conferences/workshops/symposiums	The 9th International Conference on Complex Networks and Their Applications	-	-	17	-
28	Khadilkar H (2020)	Peer-reviewed journals	Transactions of the Indian National Academy of Engineering	-	-	21	-
29	Hao Q (2022)	Proceedings of conferences/workshops/symposiums	The 28th ACM SIGKDD Conference on Knowledge Discovery and Data Mining	-	-	129	-
30	Fu Z (2020)	Proceedings of conferences/workshops/symposiums	The 43rd International ACM SIGIR Conference on Research and Development in Information Retrieval	-	-	90	8
31	Farooq J (2020)	Peer-reviewed journals	Alexandria Engineering Journal	6.8	ENGINEERING, MULTIDISCIPLINARY - SCIE (Q1)	82	26
32	Cai M (2022)	Peer-reviewed journals	Chaos: An Interdisciplinary Journal of Nonlinear Science	2.9	PHYSICS, MATHEMATICAL - SCIE (Q1); MATHEMATICS, APPLIED - SCIE (Q1)	61	41
33	Arık SÖ (2021)	Peer-reviewed journals	npj Digital Medicine	15.2	HEALTH CARE SCIENCES & SERVICES - SCIE (Q1); MEDICAL INFORMATICS - SCIE (Q1)	96	10
34	Liu P (2023)	Proceedings of conferences/workshops/symposiums	The 9th International Conference of Pioneering Computer Scientists, Engineers and Educators	-	-	6	-
35	Jain K (2023)	Proceedings of conferences/workshops/symposiums	The 16th International Conference on Social Computing, Behavioral-Cultural Modeling and Prediction and Behavior Representation in Modeling and Simulation	-	-	17	-
36	Wang H (2023)	Peer-reviewed journals	Mathematical Biosciences and Engineering	2.6	MATHEMATICAL & COMPUTATIONAL BIOLOGY - SCIE (Q2)	43	1
37	Liu M (2023)	Proceedings of conferences/workshops/symposiums	The 32nd ACM International Conference on Information and Knowledge Management	-	-	79	-

38	Libin PJ (2021)	Proceedings of conferences/workshops/symposiums	The European Conference on Machine Learning and Principles and Practice of Knowledge Discovery in Databases 2020	-	-	42	15
39	Oluwasakin EO (2023)	Peer-reviewed journals	Epidemiologia	-	-	-	-
40	He M (2023)	Peer-reviewed journals	PLOS Computational Biology	4.3	BIOCHEMICAL RESEARCH METHODS - SCIE (Q1); MATHEMATICAL & COMPUTATIONAL BIOLOGY - SCIE (Q1)	92	4
41	Shah N (2016)	Proceedings of conferences/workshops/symposiums	2016 IEEE International Conference on Big Data	-	-	53	-
42	Luo Y (2023)	Proceedings of conferences/workshops/symposiums	2023 IEEE 5th International Conference on Power, Intelligent Computing and Systems	-	-	12	-
43	De Rosa M (2023)	Proceedings of conferences/workshops/symposiums	The 31st Euromicro International Conference on Parallel, Distributed and Network-Based Processing	-	-	20	-
44	Chen Y (2023)	Proceedings of conferences/workshops/symposiums	The 12th International Conference of Information and Communication Technology	-	-	-	-
45	Awasthi R (2022)	Peer-reviewed journals	Intelligence-Based Medicine	-	-	-	-
46	Alsmadi MK (2023)	Peer-reviewed journals	International Journal of Electrical & Computer Engineering	-	-	-	-
47	Fan XR (2022)	Proceedings of conferences/workshops/symposiums	The 5th International Conference on Big Data and Internet of Things	-	-	12	-
48	Sha H (2021)	Proceedings of conferences/workshops/symposiums	The 8th IEEE International Conference on Data Science and Advanced Analytics	-	-	23	2
49	Torku T (2023)	Peer-reviewed journals	Mathematical Biosciences and Engineering	2.6	MATHEMATICAL & COMPUTATIONAL BIOLOGY - SCIE (Q2)	43	0
50	Song B (2023)	Peer-reviewed journals	Journal of Network and Computer Applications	8.7	COMPUTER SCIENCE, SOFTWARE ENGINEERING - SCIE (Q1); COMPUTER SCIENCE, HARDWARE & ARCHITECTURE - SCIE (Q1); COMPUTER SCIENCE, INTERDISCIPLINARY APPLICATIONS - SCIE (Q1)	91	0

51	Padmanabhan R (2021)	Peer-reviewed journals	Biomedical Signal Processing and Control	5.1	ENGINEERING, BIOMEDICAL - SCIE (Q2)	80	21
52	Kompella V (2020)	Proceedings of conferences/workshops/symposiums	AAAI Fall Symposium 2020 on AI for Social Good	-	-	-	-
53	Xu X (2023)	Peer-reviewed journals	Expert Systems with Applications	8.5	OPERATIONS RESEARCH & MANAGEMENT SCIENCE - SCIE (Q1); COMPUTER SCIENCE, ARTIFICIAL INTELLIGENCE - SCIE (Q1); ENGINEERING, ELECTRICAL & ELECTRONIC - SCIE (Q1)	148	6
54	Qiu Y (2022)	Proceedings of conferences/workshops/symposiums	The 5th International Conference on Pattern Recognition and Artificial Intelligence	-	-	9	-
55	Mai A (2023)	Proceedings of conferences/workshops/symposiums	Proceedings of the 32nd International Joint Conference on Artificial Intelligence	-	-	-	-
56	Berkhahn S (2022)	Peer-reviewed journals	Advances in Continuous and Discrete Models	-	MATHEMATICS - SCIE (-); MATHEMATICS, APPLIED - SCIE (-)	-	10
57	Zhan C (2021)	Proceedings of conferences/workshops/symposiums	2020 IEEE International Conference on E-health Networking, Application and Services	-	-	17	-
58	Xuan Y (2021)	Proceedings of conferences/workshops/symposiums	The 2nd Annual Conference on Mathematical and Scientific Machine Learning	-	-	-	-
59	Raissi M (2019)	Peer-reviewed journals	Letters in biomathematics	-	-	-	-
60	Nadler P (2020)	Proceedings of conferences/workshops/symposiums	The 34th Conference on Neural Information Processing Systems-Machine Learning for Health Workshop	-	-	-	-
61	Asikis T (2022)	Peer-reviewed journals	Physical Review Research	4.2	PHYSICS, MULTIDISCIPLINARY - ESCI (-)	45	17
62	He S (2020)	Proceedings of conferences/workshops/symposiums	The 34th Conference on Neural Information Processing Systems	-	-	309	-
63	Laosiritaworn Y (2018)	Proceedings of conferences/workshops/symposiums	2018 7th International Conference on Industrial Technology and Management	-	-	16	-

64	Mu C (2023)	Proceedings of conferences/workshops/symposiums	The 8th IRC Conference on Science, Engineering and Technology	-	-	-	-
65	Nguyen L (2022)	Peer-reviewed journals	Computational and Mathematical Biophysics	-	-	-	-
66	Cao Q (2023)	Proceedings of conferences/workshops/symposiums	The European Conference on Machine Learning and Principles and Practice of Knowledge Discovery in Databases 2022	-	-	42	3
67	Thiagarajan JJ (2022)	Proceedings of conferences/workshops/symposiums	The 39th International Conference on Machine Learning-The 1st Workshop on Healthcare AI and COVID-19	-	-	-	-
68	Wang L (2021)	Peer-reviewed journals	Machine Learning: Science and Technology	6.8	COMPUTER SCIENCE, INTERDISCIPLINARY APPLICATIONS - SCIE (Q1); MULTIDISCIPLINARY SCIENCES - SCIE (Q1); COMPUTER SCIENCE, ARTIFICIAL INTELLIGENCE - SCIE (Q2)	41	-
69	Maniamfu P (2023)	Proceedings of conferences/workshops/symposiums	The 19th IEEE International Colloquium on Signal Processing and Its Applications	-	-	21	-
70	Roy K (2021)	Proceedings of conferences/workshops/symposiums	AAAI Spring Symposium 2021 on Combining Machine Learning and Knowledge Engineering	-	-	14	-
71	Gao L (2023)	Peer-reviewed journals	Journal of King Saud University-Computer and Information Sciences	6.9	COMPUTER SCIENCE, INFORMATION SYSTEMS - SCIE (Q1)	71	2
72	Baldo F (2022)	Proceedings of conferences/workshops/symposiums	The 11th Conference on Prestigious Applications of Artificial Intelligence	-	-	-	-
73	Ru X (2023)	Proceedings of conferences/workshops/symposiums	The 37th AAAI Conference on Artificial Intelligence	-	-	212	-
74	Harrison G (2023)	Proceedings of conferences/workshops/symposiums	The 29th ACM SIGKDD Conference on Knowledge Discovery and Data Mining	-	-	129	-
75	Kharazmi E (2021)	Peer-reviewed journals	Nature Computational Science	11.3	COMPUTER SCIENCE, INTERDISCIPLINARY APPLICATIONS - ESCI (-); MULTIDISCIPLINARY SCIENCES - ESCI (-); COMPUTER SCIENCE, THEORY & METHODS - ESCI (-)	30	41

76	Arnst M (2022)	Peer-reviewed journals	Mathematical Biosciences	4.3	BIOLOGY - SCIE (Q2); MATHEMATICAL & COMPUTATIONAL BIOLOGY - SCIE (Q1)	34	4
77	Soemsap T (2014)	Proceedings of conferences/workshops/symposiums	The 2014 International Electrical Engineering Congress	-	-	13	-
78	Grimm V (2021)	Peer-reviewed journals	Electronic Transactions on Numerical Analysis	1.3	MATHEMATICS, APPLIED - SCIE (Q3)	17	7
79	Colas C (2021)	Peer-reviewed journals	Journal of Artificial Intelligence Research	5	COMPUTER SCIENCE, ARTIFICIAL INTELLIGENCE - SCIE (Q2)	49	-
80	Adiga A (2022)	Proceedings of conferences/workshops/symposiums	2022 IEEE International Conference on Big Data	-	-	53	-
81	Rodríguez A (2023)	Proceedings of conferences/workshops/symposiums	The 37th AAAI Conference on Artificial Intelligence	-	-	212	-
82	Chen K (2023)	Peer-reviewed journals	European Journal of Operational Research	6.4	OPERATIONS RESEARCH & MANAGEMENT SCIENCE - SCIE (Q1)	111	-
83	Chopra A (2023)	Proceedings of conferences/workshops/symposiums	The 22nd International Conference on Autonomous Agents and Multiagent Systems	-	-	55	-
84	Yang Y (2020)	Proceedings of conferences/workshops/symposiums	The 34th Conference on Neural Information Processing Systems	-	-	309	-
85	Madhavan V (2023)	Proceedings of conferences/workshops/symposiums	The 22nd International Conference on Autonomous Agents and Multiagent Systems	-	-	55	-
86	Augusta C (2019)	Peer-reviewed journals	Spatial and Spatio-temporal Epidemiology	3.4	PUBLIC, ENVIRONMENTAL & OCCUPATIONAL HEALTH - ESCI (-)	21	13
87	Wang D (2021)	Proceedings of conferences/workshops/symposiums	The 35th AAAI Conference on Artificial Intelligence	-	-	212	-
88	Čutura G (2021)	Proceedings of conferences/workshops/symposiums	The 29th European Signal Processing Conference	-	-	38	-
89	Wu D (2023)	Proceedings of conferences/workshops/symposiums	The 29th ACM SIGKDD Conference on Knowledge Discovery and Data Mining	-	-	129	-
90	Shaier S (2022)	Peer-reviewed journals	Letters in Biomathematics	-	-	-	-

91	Wu W (2022)	Proceedings of conferences/workshops/symposiums	2022 IEEE 2nd International Conference on Power, Electronics and Computer Applications	-	-	9	-
92	Lim YS (2015)	Peer-reviewed journals	Computational Social Networks	-	-	-	-
93	Basinski AJ (2021)	Peer-reviewed journals	PLOS Computational Biology	4.3	BIOCHEMICAL RESEARCH METHODS - SCIE (Q1); MATHEMATICAL & COMPUTATIONAL BIOLOGY - SCIE (Q1)	92	25
94	Ryder T (2018)	Proceedings of conferences/workshops/symposiums	The 35th International Conference on Machine Learning	-	-	254	-
95	Bertaglia G (2022)	Peer-reviewed journals	Mathematical Models and Methods in Applied Sciences	3.5	MATHEMATICS, APPLIED - SCIE (Q1)	35	7
96	Yao S (2022)	Proceedings of conferences/workshops/symposiums	2022 IEEE 7th International Conference on Intelligent Computing and Signal Processing	-	-	8	-
97	Jian ZD (2018)	Proceedings of conferences/workshops/symposiums	The 7th International Conference on Simulation and Modeling Methodologies, Technologies and Applications	-	-	11	-
98	Capobianco R (2021)	Peer-reviewed journals	Journal of Artificial Intelligence Research	5	COMPUTER SCIENCE, ARTIFICIAL INTELLIGENCE - SCIE (Q2)	49	-
99	Solares-Hernández PA (2023)	Peer-reviewed journals	Applied Mathematics and Nonlinear Sciences	3.1	MATHEMATICS, APPLIED - ESCI (-)	38	-
100	Ou HC (2021)	Proceedings of conferences/workshops/symposiums	The 21st International Workshop on Multi-Agent-Based Simulation	-	-	-	-
101	Anirudh R (2022)	Proceedings of conferences/workshops/symposiums	The 39th International Conference on Machine Learning-The 1st Workshop on Healthcare AI and COVID-19	-	-	-	-
102	Sun C (2022)	Peer-reviewed journals	Applied Artificial Intelligence	2.8	COMPUTER SCIENCE, ARTIFICIAL INTELLIGENCE - SCIE (Q3); ENGINEERING, ELECTRICAL & ELECTRONIC - SCIE (Q2)	32	4
103	Otadi M (2017)	Peer-reviewed journals	Mathematical Sciences	2 (2022)	MATHEMATICS - SCIE (Q1)	20	3

104	Jaxa-Rozen M (2018)	Peer-reviewed journals	Environmental Modelling & Software	4.9	ENGINEERING, ENVIRONMENTAL - SCIE (Q2); WATER RESOURCES - SCIE (Q1); COMPUTER SCIENCE, INTERDISCIPLINARY APPLICATIONS - SCIE (Q2); ENVIRONMENTAL SCIENCES - SCIE (Q2)	69	52
105	Trad F (2022)	Proceedings of conferences/workshops/symposiums	The 7th International Conference on Data Science and Machine Learning Applications	-	-	-	3
106	Amaral F (2021)	Peer-reviewed journals	Sensors	3.9	ENGINEERING, ELECTRICAL & ELECTRONIC - SCIE (Q2); CHEMISTRY, ANALYTICAL - SCIE (Q2); INSTRUMENTS & INSTRUMENTATION - SCIE (Q2)	168	22
107	Perumal R (2022)	Peer-reviewed journals	Neural Computing and Applications	6	COMPUTER SCIENCE, ARTIFICIAL INTELLIGENCE - SCIE (Q2)	117	3
108	Xiao S (2021)	Peer-reviewed journals	Complex Systems	1.2	MATHEMATICS, INTERDISCIPLINARY APPLICATIONS - ESCI (-)	-	2
109	Gao J (2021)	Peer-reviewed journals	Journal of the American Medical Informatics Association	6.4	COMPUTER SCIENCE, INTERDISCIPLINARY APPLICATIONS - SCIE (Q1); HEALTH CARE SCIENCES & SERVICES - SCIE (Q1); COMPUTER SCIENCE, INFORMATION SYSTEMS - SCIE (Q1); MEDICAL INFORMATICS - SCIE (Q1); INFORMATION SCIENCE & LIBRARY SCIENCE - SSCI (Q1)	78	58
110	Zheng Y (2021)	Proceedings of conferences/workshops/symposiums	The 10th International Conference on Pattern Recognition Applications and Methods	-	-	21	5
111	Jamiluddin MS (2021)	Peer-reviewed journals	Sains Malaysiana	0.8	MULTIDISCIPLINARY SCIENCES - SCIE (Q4)	26	5
112	Bushaj S (2022)	Peer-reviewed journals	Annals of Operations Research	4.8	OPERATIONS RESEARCH & MANAGEMENT SCIENCE - SCIE (Q1)	82	13
113	Amaral F (2021)	Peer-reviewed journals	IEEE Access	3.9	TELECOMMUNICATIONS - SCIE (Q2); COMPUTER SCIENCE, INFORMATION SYSTEMS - SCIE (Q2); ENGINEERING, ELECTRICAL & ELECTRONIC - SCIE (Q2)	233	9

114	Li C (2021)	Peer-reviewed journals	IEEE Transactions on Circuits and Systems I: Regular Papers	5.1	ENGINEERING, ELECTRICAL & ELECTRONIC - SCIE (Q1)	68	9
115	Bogacsovics G (2021)	Peer-reviewed journals	Annales Mathematicae et Informaticae	0.3	MATHEMATICS - ESCI (-)	8	1
116	Chadi MA (2022)	Peer-reviewed journals	Applied Artificial Intelligence	2.8	COMPUTER SCIENCE, ARTIFICIAL INTELLIGENCE - SCIE (Q3); ENGINEERING, ELECTRICAL & ELECTRONIC - SCIE (Q2)	32	6
117	Courtès C (2023)	Peer-reviewed journals	Optimal Control Applications and Methods	1.8	AUTOMATION & CONTROL SYSTEMS - SCIE (Q4); OPERATIONS RESEARCH & MANAGEMENT SCIENCE - SCIE (Q3); MATHEMATICS, APPLIED - SCIE (Q2)	28	2
118	Zhang G (2021)	Peer-reviewed journals	PLoS ONE	3.7	MULTIDISCIPLINARY SCIENCES - SCIE (Q2)	212	13
119	Wang H (2022)	Peer-reviewed journals	IEEE Journal of Selected Topics in Signal Processing	7.5	ENGINEERING, ELECTRICAL & ELECTRONIC - SCIE (Q1)	71	18
120	Heldmann F (2023)	Peer-reviewed journals	Journal of Computational Physics	4.1	PHYSICS, MATHEMATICAL - SCIE (Q1); COMPUTER SCIENCE, INTERDISCIPLINARY APPLICATIONS - SCIE (Q2)	80	5
121	Schiassi E (2021)	Peer-reviewed journals	Mathematics	2.4	MATHEMATICS - SCIE (Q1)	73	29
122	Guo X (2022)	Peer-reviewed journals	Medical Decision Making	3.6	MEDICAL INFORMATICS - SCIE (Q3); HEALTH CARE SCIENCES & SERVICES - SCIE (Q2); HEALTH POLICY & SERVICES - SSCI (Q2)	36	-
123	Kulkarni N (2022)	Proceedings of conferences/workshops/symposiums	The 15th International Conference on Social Computing, Behavioral-Cultural Modeling and Prediction and Behavior Representation in Modeling and Simulation	-	-	17	0
124	Aurell A (2022)	Peer-reviewed journals	SIAM Journal on Control and Optimization	2.2	MATHEMATICS, APPLIED - SCIE (Q1); AUTOMATION & CONTROL SYSTEMS - SCIE (Q3)	40	18
125	Deng W (2021)	Peer-reviewed journals	Chinese Physics B	1.7	PHYSICS, MULTIDISCIPLINARY - SCIE (Q3)	39	0
126	Hwang YG (2022)	Peer-reviewed journals	Numerical Methods for Partial Differential Equations	3.9	MATHEMATICS, APPLIED - SCIE (Q1)	43	2

127	Zhao L (2019)	Peer-reviewed journals	GeoInformatica	2	COMPUTER SCIENCE, INFORMATION SYSTEMS - SCIE (Q4); GEOGRAPHY, PHYSICAL - SCIE (Q3)	22	14
128	Beerman JT (2023)	Proceedings of conferences/workshops/symposiums	2023 Annual Modeling and Simulation Conference	-	-	8	-
129	Edeling W (2023)	Peer-reviewed journals	SIAM/ASA Journal on Uncertainty Quantification	2	MATHEMATICS, INTERDISCIPLINARY APPLICATIONS - SCIE (Q2); PHYSICS, MATHEMATICAL - SCIE (Q2)	34	3
130	Ghaffari M (2020)	Proceedings of conferences/workshops/symposiums	The 2019 IEEE/ACM International Conference on Advances in Social Networks Analysis and Mining	-	-	36	0
131	Gaskin T (2023)	Peer-reviewed journals	Proceedings of the National Academy of Sciences	11.1	MULTIDISCIPLINARY SCIENCES - SCIE (Q1)	268	8
132	Kmet T (2023)	Peer-reviewed journals	Mathematics	2.4	MATHEMATICS - SCIE (Q1)	73	2
133	Wan R (2021)	Proceedings of conferences/workshops/symposiums	The 27th ACM SIGKDD Conference on Knowledge Discovery and Data Mining	-	-	129	9
134	Laosiritaworn Y (2017)	Peer-reviewed journals	Journal of Physics: Conference Series	-	-	-	2
135	Angeli M (2021)	Peer-reviewed journals	Chaos, Solitons & Fractals	7.8	PHYSICS, MATHEMATICAL - SCIE (Q1); PHYSICS, MULTIDISCIPLINARY - SCIE (Q1); MATHEMATICS, INTERDISCIPLINARY APPLICATIONS - SCIE (Q1)	110	29
136	Wyss A (2023)	Peer-reviewed journals	Mathematics	2.4	MATHEMATICS - SCIE (Q1)	73	1
137	Gadewadikar J (2023)	Peer-reviewed journals	Systems Engineering	2	ENGINEERING, INDUSTRIAL - SCIE (Q4); OPERATIONS RESEARCH & MANAGEMENT SCIENCE - SCIE (Q3)	22	4
138	Miralles-Pechuán L (2020)	Proceedings of conferences/workshops/symposiums	The 29th ACM International Conference on Information and Knowledge Management	-	-	79	11
139	Valtchev SZ (2021)	Peer-reviewed journals	Electronics	2.9	ENGINEERING, ELECTRICAL & ELECTRONIC - SCIE (Q2); COMPUTER SCIENCE, INFORMATION SYSTEMS - SCIE (Q3); PHYSICS, APPLIED - SCIE (Q2)	88	6

140	Kwok WM (2023)	Peer-reviewed journals	Statistics and Computing	2.2	STATISTICS & PROBABILITY - SCIE (Q1); COMPUTER SCIENCE, THEORY & METHODS - SCIE (Q3)	36	0
141	Zisad SN (2021)	Peer-reviewed journals	Algorithms	2.3	COMPUTER SCIENCE, ARTIFICIAL INTELLIGENCE - ESCI (-); COMPUTER SCIENCE, THEORY & METHODS - ESCI (-)	42	-
142	Zhang Z (2023)	Peer-reviewed journals	Physica A: Statistical Mechanics and its Applications	3.3	PHYSICS, MULTIDISCIPLINARY - SCIE (Q2)	93	0
143	Dadgostari F (2022)	Proceedings of conferences/workshops/symposiums	2022 Winter Simulation Conference	-	-	-	0
144	Long J (2021)	Peer-reviewed journals	International Journal of Computer Mathematics	1.8	MATHEMATICS, APPLIED - SCIE (Q2)	27	25
145	Merkelbach K (2022)	Peer-reviewed journals	Computers & Chemical Engineering	4.3	COMPUTER SCIENCE, INTERDISCIPLINARY APPLICATIONS - SCIE (Q2); ENGINEERING, CHEMICAL - SCIE (Q2)	67	13
146	Muñoz L (2022)	Peer-reviewed journals	ADCAIJ: Advances in Distributed Computing and Artificial Intelligence Journal	1.4	COMPUTER SCIENCE, ARTIFICIAL INTELLIGENCE - ESCI (-)	26	0
147	Castillo Ossa LF (2021)	Peer-reviewed journals	Electronics	2.9	ENGINEERING, ELECTRICAL & ELECTRONIC - SCIE (Q2); COMPUTER SCIENCE, INFORMATION SYSTEMS - SCIE (Q3); PHYSICS, APPLIED - SCIE (Q2)	88	11
148	Rahmadani F (2020)	Peer-reviewed journals	Applied Sciences	2.7	PHYSICS, APPLIED - SCIE (Q2); ENGINEERING, MULTIDISCIPLINARY - SCIE (Q2); CHEMISTRY, MULTIDISCIPLINARY - SCIE (Q3); MATERIALS SCIENCE, MULTIDISCIPLINARY - SCIE (Q3)	138	12
149	Bertsimas D (2021)	Peer-reviewed journals	Health Care Management Science	3.6	HEALTH POLICY & SERVICES - SSCI (Q2)	34	40
150	Aurell A (2022)	Peer-reviewed journals	Dynamic Games and Applications	1.5	MATHEMATICS, INTERDISCIPLINARY APPLICATIONS - SCIE (Q3)	19	10
151	Rosato C (2023)	Peer-reviewed journals	Information	3.1	COMPUTER SCIENCE, INFORMATION SYSTEMS - ESCI (-)	-	1

152	Spear RC (2020)	Peer-reviewed journals	Water Resources Research	5.4	LIMNOLOGY - SCIE (Q1); WATER RESOURCES - SCIE (Q1); ENVIRONMENTAL SCIENCES - SCIE (Q2)	80	10
153	Ning X (2022)	Peer-reviewed journals	Frontiers in Physics	3.1	PHYSICS, MULTIDISCIPLINARY - SCIE (Q2)	60	0
154	Song P (2022)	Peer-reviewed journals	Journal of Applied Analysis & Computation	1.1	MATHEMATICS, APPLIED - SCIE (Q3)	24	4
155	Bampa M (2022)	Proceedings of conferences/workshops/symposiums	The 20th International Conference on Artificial Intelligence in Medicine	-	-	-	0
156	La Gatta V (2021)	Peer-reviewed journals	IEEE Transactions on Big Data	7.2	COMPUTER SCIENCE, INFORMATION SYSTEMS - SCIE (Q1); COMPUTER SCIENCE, THEORY & METHODS - SCIE (Q1)	42	76
157	Ma J (2022)*	Peer-reviewed journals	Mobile Information Systems	1.863 (2021)	TELECOMMUNICATIONS - SCIE (Q4; 2021); COMPUTER SCIENCE, INFORMATION SYSTEMS - SCIE (Q4; 2021)	35	1
158	Shami L (2022)	Peer-reviewed journals	Chaos, Solitons & Fractals	7.8	PHYSICS, MATHEMATICAL - SCIE (Q1); PHYSICS, MULTIDISCIPLINARY - SCIE (Q1); MATHEMATICS, INTERDISCIPLINARY APPLICATIONS - SCIE (Q1)	110	11
159	Du X (2022)	Proceedings of conferences/workshops/symposiums	The 15th International Conference on Knowledge Science, Engineering and Management	-	-	14	3
160	Malinzi J (2022)	Peer-reviewed journals	Axioms	2	MATHEMATICS, APPLIED - SCIE (Q2)	34	6
161	Benalcázar DR (2021)	Proceedings of conferences/workshops/symposiums	2021 IEEE Conference on Control Technology and Applications	-	-	19	0
162	Murphy C (2021)	Peer-reviewed journals	Nature Communications	16.6	MULTIDISCIPLINARY SCIENCES - SCIE (Q1)	349	29
163	Ghamizi S (2020)	Proceedings of conferences/workshops/symposiums	The 26th ACM SIGKDD International Conference on Knowledge Discovery and Data Mining	-	-	129	23
164	Jiang R (2021)	Proceedings of conferences/workshops/symposiums	The European Conference on Machine Learning and Principles and Practice of Knowledge Discovery in Databases 2021	-	-	42	10

165	Xia M (2022)	Peer-reviewed journals	IEEE Transactions on Network Science and Engineering	6.6	MATHEMATICS, INTERDISCIPLINARY APPLICATIONS - SCIE (Q1); ENGINEERING, MULTIDISCIPLINARY - SCIE (Q1)	62	17
166	Michalak K (2022)	Peer-reviewed journals	Applied Soft Computing	8.7	COMPUTER SCIENCE, ARTIFICIAL INTELLIGENCE - SCIE (Q1); COMPUTER SCIENCE, INTERDISCIPLINARY APPLICATIONS - SCIE (Q1)	126	1
167	Wang L (2022)	Proceedings of conferences/workshops/symposiums	The 36th AAAI Conference on Artificial Intelligence	-	-	212	-
168	Nguyen C (2022)	Proceedings of conferences/workshops/symposiums	The 2022 International Conference on Innovations in Computing Research	-	-	-	0
169	Aronis JM (2017)	Peer-reviewed journals	Journal of Biomedical Informatics	4.5	MEDICAL INFORMATICS - SCIE (Q2); COMPUTER SCIENCE, INTERDISCIPLINARY APPLICATIONS - SCIE (Q2)	68	3
170	Li C (2023)	Peer-reviewed journals	International Journal of Biomathematics	2.2	MATHEMATICAL & COMPUTATIONAL BIOLOGY - SCIE (Q3)	25	0
171	Yasami A (2022)	Peer-reviewed journals	The European Physical Journal Special Topics	2.8	PHYSICS, MULTIDISCIPLINARY - SCIE (Q2)	36	9
172	Edali M (2020)	Peer-reviewed journals	Systems Research and Behavioral Science	2.7	SOCIAL SCIENCES, INTERDISCIPLINARY - SSCI (Q2); MANAGEMENT - SSCI (Q4)	35	2
173	Fountain-Jones NM (2023)	Peer-reviewed journals	Proceedings of the Royal Society B	4.7	ECOLOGY - SCIE (Q1); EVOLUTIONARY BIOLOGY - SCIE (Q1); BIOLOGY - SCIE (Q1)	83	-
174	Huang D (2021)	Peer-reviewed journals	International Journal of Infectious Diseases	8.4	INFECTIOUS DISEASES - SCIE (Q1)	117	7
175	Liao Z (2021)	Peer-reviewed journals	Computers in Biology and Medicine	7.7	ENGINEERING, BIOMEDICAL - SCIE (Q1); MATHEMATICAL & COMPUTATIONAL BIOLOGY - SCIE (Q1); BIOLOGY - SCIE (Q1); COMPUTER SCIENCE, INTERDISCIPLINARY APPLICATIONS - SCIE (Q1)	92	33
176	Ruth W (2022)	Peer-reviewed journals	Network Modeling Analysis in Health Informatics and Bioinformatics	2.3	MATHEMATICAL & COMPUTATIONAL BIOLOGY - ESCI (-)	21	1

177	Zhao G (2020)	Peer-reviewed journals	Neurocomputing	6	COMPUTER SCIENCE, ARTIFICIAL INTELLIGENCE - SCIE (Q2)	135	59
178	Kandula S (2019)	Peer-reviewed journals	Journal of the Royal Society Interface	3.9	MULTIDISCIPLINARY SCIENCES - SCIE (Q2)	60	12
179	Delli Compagni R (2022)	Peer-reviewed journals	PLoS ONE	3.7	MULTIDISCIPLINARY SCIENCES - SCIE (Q2)	212	10
180	Bertozzi-Villa A (2023)	Peer-reviewed journals	Malaria Journal	3	PARASITOLOGY - SCIE (Q2); INFECTIOUS DISEASES - SCIE (Q3); TROPICAL MEDICINE - SCIE (Q2)	55	0
181	Malloy GS (2022)	Peer-reviewed journals	Medical Decision Making	3.6	MEDICAL INFORMATICS - SCIE (Q3); HEALTH CARE SCIENCES & SERVICES - SCIE (Q2); HEALTH POLICY & SERVICES - SSCI (Q2)	36	1
182	Lutz CB (2021)	Peer-reviewed journals	Advanced Theory and Simulations	3.3	MULTIDISCIPLINARY SCIENCES - SCIE (Q2)	40	8
183	Davis CN (2020)	Peer-reviewed journals	PLOS Computational Biology	4.3	BIOCHEMICAL RESEARCH METHODS - SCIE (Q1); MATHEMATICAL & COMPUTATIONAL BIOLOGY - SCIE (Q1)	92	-
184	Zhang T (2021)	Peer-reviewed journals	Transactions in GIS	2.4	GEOGRAPHY - SSCI (Q2)	30	4
185	He M (2023)	Peer-reviewed journals	Computers in Biology and Medicine	7.7	ENGINEERING, BIOMEDICAL - SCIE (Q1); MATHEMATICAL & COMPUTATIONAL BIOLOGY - SCIE (Q1); BIOLOGY - SCIE (Q1); COMPUTER SCIENCE, INTERDISCIPLINARY APPLICATIONS - SCIE (Q1)	92	3
186	Pokharel G (2014)	Peer-reviewed journals	Spatial and Spatio-temporal Epidemiology	3.4	PUBLIC, ENVIRONMENTAL & OCCUPATIONAL HEALTH - ESCI (-)	21	-
187	Santermans E (2015)	Peer-reviewed journals	Epidemics	3.8	INFECTIOUS DISEASES - SCIE (Q3)	38	21
188	Sun H (2022)	Peer-reviewed journals	PLOS Computational Biology	4.3	BIOCHEMICAL RESEARCH METHODS - SCIE (Q1); MATHEMATICAL & COMPUTATIONAL BIOLOGY - SCIE (Q1)	92	2
189	Khatami SN (2021)	Peer-reviewed journals	Mathematical Biosciences and Engineering	2.6	MATHEMATICAL & COMPUTATIONAL BIOLOGY - SCIE (Q2)	43	4
190	Zong K (2022)	Peer-reviewed journals	Computers & Industrial Engineering	7.9	ENGINEERING, INDUSTRIAL - SCIE (Q1); COMPUTER SCIENCE, INTERDISCIPLINARY APPLICATIONS - SCIE (Q1)	104	9

191	Jung SY (2020)	Peer-reviewed journals	Journal of Medical Internet Research	7.4	HEALTH CARE SCIENCES & SERVICES - SCIE (Q1); MEDICAL INFORMATICS - SCIE (Q1)	146	11
192	Liu D (2020)	Peer-reviewed journals	Journal of Medical Internet Research	7.4	HEALTH CARE SCIENCES & SERVICES - SCIE (Q1); MEDICAL INFORMATICS - SCIE (Q1)	146	26
193	He Z (2022)	Peer-reviewed journals	IEEE/ACM Transactions on Computational Biology and Bioinformatics	4.5	COMPUTER SCIENCE, INTERDISCIPLINARY APPLICATIONS - SCIE (Q2); STATISTICS & PROBABILITY - SCIE (Q1); MATHEMATICS, INTERDISCIPLINARY APPLICATIONS - SCIE (Q1); BIOCHEMICAL RESEARCH METHODS - SCIE (Q1)	56	-
194	Zang X (2020)	Peer-reviewed journals	Value in Health	4.5	HEALTH POLICY & SERVICES - SSCI (Q1); HEALTH CARE SCIENCES & SERVICES - SCIE (Q1); ECONOMICS - SSCI (Q1)	61	4
195	Zheng N (2020)	Peer-reviewed journals	IEEE Transactions On Systems, Man And Cybernetics Part B, Cybernetics	11.8	COMPUTER SCIENCE, CYBERNETICS - SCIE (Q1); AUTOMATION & CONTROL SYSTEMS - SCIE (Q1); COMPUTER SCIENCE, ARTIFICIAL INTELLIGENCE - SCIE (Q1)	144	140
196	Ning X (2023)	Peer-reviewed journals	Viruses	4.7	VIROLOGY - SCIE (Q2)	106	4
197	Colijn C (2014)	Peer-reviewed journals	Evolution, Medicine, and Public Health	3.7	EVOLUTIONARY BIOLOGY - SCIE (Q2); PUBLIC, ENVIRONMENTAL & OCCUPATIONAL HEALTH - SCIE (Q2)	27	-
198	Watson GL (2021)	Peer-reviewed journals	PLOS Computational Biology	4.3	BIOCHEMICAL RESEARCH METHODS - SCIE (Q1); MATHEMATICAL & COMPUTATIONAL BIOLOGY - SCIE (Q1)	92	36
199	Radev ST (2021)	Peer-reviewed journals	PLOS Computational Biology	4.3	BIOCHEMICAL RESEARCH METHODS - SCIE (Q1); MATHEMATICAL & COMPUTATIONAL BIOLOGY - SCIE (Q1)	92	15
200	Janko V (2023)	Peer-reviewed journals	Frontiers in Public Health	5.2	PUBLIC, ENVIRONMENTAL & OCCUPATIONAL HEALTH - SCIE (Q1); PUBLIC, ENVIRONMENTAL & OCCUPATIONAL HEALTH - SSCI (Q1)	114	4

201	Yin S (2023)	Peer-reviewed journals	Journal of Mathematical Biology	1.9	MATHEMATICAL & COMPUTATIONAL BIOLOGY - SCIE (Q3); BIOLOGY - SCIE (Q3)	35	2
202	Yao Y (2023)	Peer-reviewed journals	Journal of the American Medical Informatics Association	6.4	COMPUTER SCIENCE, INTERDISCIPLINARY APPLICATIONS - SCIE (Q1); HEALTH CARE SCIENCES & SERVICES - SCIE (Q1); COMPUTER SCIENCE, INFORMATION SYSTEMS - SCIE (Q1); MEDICAL INFORMATICS - SCIE (Q1); INFORMATION SCIENCE & LIBRARY SCIENCE - SSCI (Q1)	78	1
203	Liu XD (2023)	Peer-reviewed journals	BMC Public Health	4.5	PUBLIC, ENVIRONMENTAL & OCCUPATIONAL HEALTH - SCIE (Q2)	124	7
204	Hu H (2022)	Peer-reviewed journals	Viruses	4.7	VIROLOGY - SCIE (Q2)	106	6
205	Sanson RL (2022)	Peer-reviewed journals	Transboundary and Emerging Diseases	4.3	INFECTIOUS DISEASES - SCIE (Q2); VETERINARY SCIENCES - SCIE (Q1)	65	2
206	Viet AF (2018)	Peer-reviewed journals	PLoS ONE	3.7	MULTIDISCIPLINARY SCIENCES - SCIE (Q2)	212	5
207	Cooper GF (2014)	Peer-reviewed journals	Journal of Biomedical Informatics	4.5	MEDICAL INFORMATICS - SCIE (Q2); COMPUTER SCIENCE, INTERDISCIPLINARY APPLICATIONS - SCIE (Q2)	68	15
208	Dandekar R (2020)	Peer-reviewed journals	Patterns	6.5	COMPUTER SCIENCE, INTERDISCIPLINARY APPLICATIONS - ESCI (-); COMPUTER SCIENCE, INFORMATION SYSTEMS - ESCI (-); COMPUTER SCIENCE, ARTIFICIAL INTELLIGENCE - ESCI (-)	38	27
209	Kondapalli AR (2021)	Peer-reviewed journals	Indian Journal of Physics	2	PHYSICS, MULTIDISCIPLINARY - SCIE (Q3)	34	1
210	Petrica M (2023)	Peer-reviewed journals	BioData Mining	4.5	MATHEMATICAL & COMPUTATIONAL BIOLOGY - SCIE (Q1)	21	1
211	Han BA (2020)	Peer-reviewed journals	Ecology Letters	8.8	ECOLOGY - SCIE (Q1)	88	26
212	Saulnier E (2017)	Peer-reviewed journals	PLOS Computational Biology	4.3	BIOCHEMICAL RESEARCH METHODS - SCIE (Q1); MATHEMATICAL & COMPUTATIONAL BIOLOGY - SCIE (Q1)	92	26
213	Dandekar R (2021)	Peer-reviewed journals	Health Data Science	-	-	-	-

214	Wang X (2022)	Peer-reviewed journals	Bulletin of Mathematical Biology	3.5	BIOLOGY - SCIE (Q2); MATHEMATICAL & COMPUTATIONAL BIOLOGY - SCIE (Q2)	32	16
215	Du X (2023)	Peer-reviewed journals	Information Sciences	8.1	COMPUTER SCIENCE, INFORMATION SYSTEMS - SCIE (Q1)	128	4
216	Alauddin M (2020)	Peer-reviewed journals	Journal of Loss Prevention in the Process Industries	3.5	ENGINEERING, CHEMICAL - SCIE (Q2)	44	13
217	Yaesoubi R (2023)	Peer-reviewed journals	Health Care Management Science	3.6	HEALTH POLICY & SERVICES - SSCI (Q2)	34	0
218	Nguyen QD (2022)	Peer-reviewed journals	Scientific Reports	4.6	MULTIDISCIPLINARY SCIENCES - SCIE (Q2)	210	2
219	Wang X (2022)	Peer-reviewed journals	Bulletin of Mathematical Biology	3.5	BIOLOGY - SCIE (Q2); MATHEMATICAL & COMPUTATIONAL BIOLOGY - SCIE (Q2)	32	13
220	Ning X (2023)	Peer-reviewed journals	Computers in Biology and Medicine	7.7	ENGINEERING, BIOMEDICAL - SCIE (Q1); MATHEMATICAL & COMPUTATIONAL BIOLOGY - SCIE (Q1); BIOLOGY - SCIE (Q1); COMPUTER SCIENCE, INTERDISCIPLINARY APPLICATIONS - SCIE (Q1)	92	8
221	Reiker T (2021)	Peer-reviewed journals	Nature Communications	16.6	MULTIDISCIPLINARY SCIENCES - SCIE (Q1)	349	22
222	Jørgensen AC (2022)	Peer-reviewed journals	PLOS Computational Biology	4.3	BIOCHEMICAL RESEARCH METHODS - SCIE (Q1); MATHEMATICAL & COMPUTATIONAL BIOLOGY - SCIE (Q1)	92	8
223	Weyant C (2022)	Peer-reviewed journals	Medical Decision Making	3.6	MEDICAL INFORMATICS - SCIE (Q3); HEALTH CARE SCIENCES & SERVICES - SCIE (Q2); HEALTH POLICY & SERVICES - SSCI (Q2)	36	3
224	Deng Q (2020)	Peer-reviewed journals	Journal of Medical Internet Research	7.4	HEALTH CARE SCIENCES & SERVICES - SCIE (Q1); MEDICAL INFORMATICS - SCIE (Q1)	146	13
225	Eisenberg JN (2004)	Peer-reviewed journals	Risk Analysis	3.8	PUBLIC, ENVIRONMENTAL & OCCUPATIONAL HEALTH - SSCI (Q2); MATHEMATICS, INTERDISCIPLINARY APPLICATIONS - SCIE (Q1); SOCIAL SCIENCES, MATHEMATICAL METHODS - SSCI (Q1)	54	34
226	Nsoesie EO (2014)	Peer-reviewed journals	BMC Infectious Diseases	3.7	INFECTIOUS DISEASES - SCIE (Q3)	80	10

227	Quilodrán-Casas C (2021)	Peer-reviewed journals	Neurocomputing	6	COMPUTER SCIENCE, ARTIFICIAL INTELLIGENCE - SCIE (Q2)	135	25
228	Kim J (2021)	Peer-reviewed journals	Scientific Reports	4.6	MULTIDISCIPLINARY SCIENCES - SCIE (Q2)	210	2
229	Badfar E (2021)	Peer-reviewed journals	Nonlinear Dynamics	5.6	MECHANICS - SCIE (Q1); ENGINEERING, MECHANICAL - SCIE (Q1)	87	12
230	Gupta A (2023)	Peer-reviewed journals	Computational Biology and Chemistry	3.1	BIOLOGY - SCIE (Q2); COMPUTER SCIENCE, INTERDISCIPLINARY APPLICATIONS - SCIE (Q3)	39	1
231	Bousquet A (2022)	Peer-reviewed journals	Scientific Reports	4.6	MULTIDISCIPLINARY SCIENCES - SCIE (Q2)	210	17
232	Pereira FH (2021)	Peer-reviewed journals	Computer Methods and Programs in Biomedicine	6.1	COMPUTER SCIENCE, INTERDISCIPLINARY APPLICATIONS - SCIE (Q1); ENGINEERING, BIOMEDICAL - SCIE (Q1); MEDICAL INFORMATICS - SCIE (Q1); COMPUTER SCIENCE, THEORY & METHODS - SCIE (Q1)	88	11
233	Böttcher L (2021)	Peer-reviewed journals	Chaos: An Interdisciplinary Journal of Nonlinear Science	2.9	PHYSICS, MATHEMATICAL - SCIE (Q1); MATHEMATICS, APPLIED - SCIE (Q1)	61	3
234	Olumoyin KD (2021)	Peer-reviewed journals	Epidemiologia	-	-	-	-
235	Feng L (2022)	Peer-reviewed journals	Mathematical Biosciences and Engineering	2.6	MATHEMATICAL & COMPUTATIONAL BIOLOGY - SCIE (Q2)	43	3
236	Silva VL (2023)	Peer-reviewed journals	Journal of Scientific Computing	2.5	MATHEMATICS, APPLIED - SCIE (Q1)	47	7
237	Markovic S (2021)	Peer-reviewed journals	One Health	5	PUBLIC, ENVIRONMENTAL & OCCUPATIONAL HEALTH - SCIE (Q1); INFECTIOUS DISEASES - SCIE (Q2)	39	7
238	Taylor NP (2023)	Peer-reviewed journals	Journal of the Royal Society Interface	3.9	MULTIDISCIPLINARY SCIENCES - SCIE (Q2)	60	1
239	Ding Z (2023)	Peer-reviewed journals	Biomimetics	4.5	ENGINEERING, MULTIDISCIPLINARY - SCIE (Q1); MATERIALS SCIENCE, BIOMATERIALS - SCIE (Q2)	31	0
240	Kmet T (2019)	Peer-reviewed journals	Biosystems	1.6	BIOLOGY - SCIE (Q3); MATHEMATICAL & COMPUTATIONAL BIOLOGY - SCIE (Q4)	29	3
241	Nguyen DQ (2022)	Peer-reviewed journals	Scientific Reports	4.6	MULTIDISCIPLINARY SCIENCES - SCIE (Q2)	210	6

242	Khan JI (2022)	Peer-reviewed journals	Chaos, Solitons & Fractals	7.8	PHYSICS, MATHEMATICAL - SCIE (Q1); PHYSICS, MULTIDISCIPLINARY - SCIE (Q1); MATHEMATICS, INTERDISCIPLINARY APPLICATIONS - SCIE (Q1)	110	2
243	Wu JW (2022)	Peer-reviewed journals	Biomedical and Environmental Sciences	3.5	PUBLIC, ENVIRONMENTAL & OCCUPATIONAL HEALTH - SCIE (Q2); ENVIRONMENTAL SCIENCES - SCIE (Q2)	24	5
244	Beigi A (2021)	Peer-reviewed journals	The European Physical Journal Plus	3.4	PHYSICS, MULTIDISCIPLINARY - SCIE (Q2)	70	21
245	Kumaresan M (2022)	Peer-reviewed journals	Mathematical Biosciences and Engineering	2.6	MATHEMATICAL & COMPUTATIONAL BIOLOGY - SCIE (Q2)	43	2

*This study did not have a listed impact factor and quartile information for the year 2022, we used information for the year 2021 instead.

Appendix 14. Study categorization

Application area	Methodological framework	Integration approach	Studies*	Number of studies (n =)
Infectious disease forecasting	Ensemble learning frameworks	Combining AI and epidemiological models through ensemble modeling frameworks	#13; #17; #60; #69; #80; #179	6
Infectious disease forecasting	Cluster-based transmission analysis frameworks	Integrating epidemiological knowledge into AI models	#192	1
Infectious disease forecasting	Surrogate modeling/synthetically-trained AI models	Training AI models using data generated from epidemiological models	#14; #209; #23; #57; #87; #115; #119; #162; #184; #227; #236	11
Infectious disease forecasting	PINNs/EAAMs	Using AI models to learn unknown components of epidemiological models	#16; #43; #49; #56; #90; #95; #160; #75; #81; #37; #66; #102; #110; #167; #109; #157; #168; #241	18
Infectious disease forecasting	PINNs/EAAMs	Integrating epidemiological knowledge into AI models	#16; #43; #49; #56; #90; #95; #160; #75; #81; #34; #103; #37; #66; #102; #110; #167; #109; #157; #168; #241	20
Infectious disease forecasting	AI models incorporating epidemiological input features	Integrating epidemiological knowledge into AI models	#47	1
Infectious disease forecasting	AI-augmented epidemiological models	Using AI models to learn unknown components of epidemiological models	#15; #36; #83; #84; #106; #193; #201; #210; #19; #20; #24; #46; #21; #64; #91; #96; #118; #141; #145; #146; #147; #175; #203; #231; #235; #239; #22; #54; #198; #214; #219; #228; #44; #68; #136; #137; #164; #171; #195; #224; #230; #242; #245; #144; #31; #77	46
Infectious disease forecasting	AI-augmented epidemiological models	Integrating epidemiological knowledge into AI models	#15; #36; #83; #84; #106; #193; #201; #33; #144	9

Infectious disease forecasting	AI-augmented epidemiological models	Using AI models to enhance observational data	#33	1
Infectious disease forecasting	AI-augmented epidemiological models	Training AI models using data generated from epidemiological models	#210	1
Model parameterization and calibration	Epidemiological models with improved observational data	Using AI models to enhance observational data	#25; #99; #151; #178	4
Model parameterization and calibration	Surrogate modeling/synthetically-trained AI models	Training AI models using data generated from epidemiological models	#101; #107; #221; #222; #236; #140; #35; #182; #85; #89; #134; #183; #232; #12; #74; #86; #186; #226; #210; #222	20
Model parameterization and calibration	Surrogate modeling/synthetically-trained AI models	Using AI models to learn unknown components of epidemiological models	#140; #12; #74; #86; #186; #226; #210; #222	8
Model parameterization and calibration	Surrogate modeling/synthetically-trained AI models	Integrating epidemiological knowledge into AI models	#140	1
Model parameterization and calibration	PINNs/EAAMs	Using AI models to learn unknown components of epidemiological models	#7; #16; #18; #32; #39; #40; #43; #49; #56; #59; #65; #78; #90; #95; #111; #120; #121; #135; #160; #185; #191; #196; #204; #234; #75; #81; #144; #153; #220; #110; #127; #157	32
Model parameterization and calibration	PINNs/EAAMs	Integrating epidemiological knowledge into AI models	#7; #16; #18; #32; #39; #40; #43; #49; #56; #59; #65; #78; #90; #95; #111; #120; #121; #135; #160; #185; #191; #196; #204; #234; #75; #81; #144; #153; #220; #110; #127; #157	32
Model parameterization and calibration	AI-augmented epidemiological models	Using AI models to learn unknown components of epidemiological models	#9; #72; #106; #113; #154; #193; #216; #15; #83; #131; #148; #156; #170; #208; #213; #201; #229	17

Model parameterization and calibration	AI-augmented epidemiological models	Integrating epidemiological knowledge into AI models	#9; #72; #106; #113; #154; #193; #216; #15; #83; #131; #148; #156; #170; #208; #213; #201; #33	17
Model parameterization and calibration	AI-augmented epidemiological models	Using AI models to enhance observational data	#33	1
Model parameterization and calibration	Bayesian neural networks	Training AI models using data generated from epidemiological models	#76; #94; #199; #212	4
Model parameterization and calibration	Bayesian neural networks	Using AI models to learn unknown components of epidemiological models	#76; #94; #199; #212	4
Disease intervention assessment and optimization	Surrogate modeling/synthetically-trained AI models	Training AI models using data generated from epidemiological models	#67; #97; #108; #139; #181; #188; #194; #4; #5; #11; #42; #71; #177; #27; #41; #166; #206; #233; #238	19
Disease intervention assessment and optimization	AI-augmented epidemiological models	Using AI models to learn unknown components of epidemiological models	#149; #243; #163; #200; #62	5
Disease intervention assessment and optimization	Cluster-based transmission analysis frameworks	Decomposing large-scale epidemiological models using AI models	#180	1
Disease intervention assessment and optimization	AI-enhanced optimization frameworks	Using AI models to find optimal decisions under dynamic disease spreading processes	#150; #58; #124; #3; #10; #26; #52; #70; #98; #100; #105; #112; #158; #161; #189; #190; #218; #6; #28; #45; #51; #55; #79; #116; #123; #125; #133; #138; #155; #159; #165; #202; #215; #244; #8; #38; #50; #29; #61; #122; #126; #61; #114; #132; #201; #240; #82	47

Disease intervention assessment and optimization	AI-augmented epidemiological models	Using AI models to find optimal decisions under dynamic disease spreading processes	#62	1
Disease intervention assessment and optimization	AI-augmented epidemiological models	Integrating epidemiological knowledge into AI models	#62	1
Disease intervention assessment and optimization	AI-enhanced optimization frameworks	Training AI models using data generated from epidemiological models	#117	1
Disease intervention assessment and optimization	AI-enhanced optimization frameworks	Integrating epidemiological knowledge into AI models	#61; #114; #132; #201; #240	5
Retrospective epidemic course analysis	Surrogate modeling/synthetically-trained AI models	Training AI models using data generated from epidemiological models	#63; #129; #104; #152; #176; #225; #142; #187; #237; #172; #205; #173; #174; #223; #128; #143	16
Transmission inference	Bayesian neural networks	Training AI models using data generated from epidemiological models	#2; #53; #88	3
Transmission inference	Surrogate modeling/synthetically-trained AI models	Training AI models using data generated from epidemiological models	#48; #73; #197	3
Transmission inference	Surrogate modeling/synthetically-trained AI models	Integrating epidemiological knowledge into AI models	#73	1
Transmission inference	AI-enhanced optimization frameworks	Using AI models to find optimal decisions under dynamic disease spreading processes	#62	1
Transmission inference	AI-enhanced optimization frameworks	Using AI models to learn unknown components of epidemiological models	#62	1
Transmission inference	AI-enhanced optimization frameworks	Integrating epidemiological knowledge into AI models	#62	1

Transmission inference	AI models incorporating epidemiological input features	Integrating epidemiological knowledge into AI models	#92	1
Transmission inference	Bayesian neural networks	Integrating epidemiological knowledge into AI models	#88	1
Transmission inference	PINNs/EAAMs	Integrating epidemiological knowledge into AI models	#1	1
Outbreak detection	AI models incorporating epidemiological input features	Integrating epidemiological knowledge into AI models	#30	1
Outbreak detection	Surrogate modeling/synthetically-trained AI models	Training AI models using data generated from epidemiological models	#217	1
Outbreak detection	Epidemiological models with improved observational data	Using AI models to enhance observational data	#93; #211; #130; #169; #207	5

*Study numbers presented here correspond to the study numbers in Appendix 5 that provides detailed characteristics for each study.

Appendix 15. Overview of AI techniques employed in integrated models

- Clustering[250]: An unsupervised ML technique designed to group unlabeled objects or data points into clusters based on their similarity to each other. Common examples include k-means clustering and hierarchical agglomerative clustering.
- K-nearest neighbors (KNN)[250]: A supervised ML algorithm that classifies or predicts new data points based on their proximity to existing data. KNN finds the "K" closest training examples to a new data point and uses their labels (for classification) or values (for regression) to make predictions for the new point.
- Tree-based methods[251]: Supervised ML algorithms that construct decision trees to make predictions. These algorithms model complex relationships between input variables and output labels using a hierarchical structure of decisions. Common examples include decision trees, random forests, and gradient-boosting models.
- Support vector machines (SVMs)[252]: Supervised ML algorithms that find the optimal hyperplanes to separate data points into different classes with the maximum margin.
- Neural networks (NNs)[250]: NNs consist of interconnected nodes (or neurons) organized in layers (i.e., input, output, and hidden layers) to process and transfer information, inspired by biological network networks. NNs without hidden layers are simply regressions, while NNs with at least one hidden layer are considered DL. Each node has an activation function with adjustable parameters. NNs learn complex relationships within data by adjusting NN parameters through backpropagation algorithms to minimize a defined loss function during the training process.
    - Multilayer perceptron (MLP): A feedforward NN consisting of fully connected layers, with at least one hidden layer.
    - Graph neural networks (GNNs)[253]: A type of NNs designed to process graph-structured data.
    - Recurrent neural networks (RNNs)[254]: A type of NNs designed to process sequential data. Common RNNs include long-short term memory (LSTM) networks and Gated Recurrent Units (GRUs).
    - Transformers[255]: A type of NNs based on attention mechanisms.
    - Convolutional neural networks (CNNs)/Deconvolutional neural networks (DCNNs)[256]: A type of NNs most commonly used in Computer Vision to process visual data, such as images and videos.
    - Encoder-decoder models[257]: A type of NNs for sequence-to-sequence tasks.
    - Generative adversarial networks (GANs)[258]: A type of NNs consisting of two competing networks, a generator and a discriminator, for generative modeling. The generator takes random noise as input and tries to generate synthetic data that resembles the real data distribution. The discriminator takes both real data and synthetic data generated by the generator as input and tries to distinguish between them. Two networks are trained simultaneously until convergence where the generator can produce realistic-looking data.

    - Incremental neural networks[259]: A type of NNs designed to adapt and learn new information continuously without forgetting previously acquired knowledge.
    - Invertible neural networks[260]: A type of NNs for bijective function approximation.
    - Mixture density networks[261]: A type of NNs designed to model complex probability distributions.
    - Physics-informed neural networks (PINNs)[262]: A type of NNs that are trained to solve supervised learning tasks by incorporating physical laws, expressed as differential equations, directly into the learning process. This is achieved by including a physics-informed loss term into the loss function as a regularization mechanism to penalize solutions not satisfying the underlying physical laws.
- Epidemiology-aware AI models (EAAMs)[41]: AI models that incorporate epidemiology knowledge into the learning process. When applied to epidemiological modeling, PINNs can be seen as a subset of EAAMs.
- Reinforcement learning (RL)[263]: An ML technique where an intelligent agent learns to make decisions by interacting with an environment. The agent receives rewards or penalties from its actions and aims to maximize its cumulative reward over time. Deep RL is the combination of RL and DL, enabling the agent to learn more complex decision-making tasks.
- Natural language processing (NLP): A wide range of AI techniques that allow computers to understand, analyze, and generate human language data, such as text and speech. Large language models (LLMs),[264] a sub-field of NLP, are large DL models trained on vast amount of datasets. Notable LLMs include bidirectional encoder representations from transformers (BERT)[265] and generative pre-trained transformer (GPT) series of models (such as ChatGPT).[266]
- Federated learning[267]: A decentralized ML technique that enables multiple devices or organizations to collaboratively train a shared model on decentralized data.

Appendix 16. Overview of methodological frameworks employed by integrated models

- AI-augmented epidemiological models: This framework involves training AI models on observational data to learn unknown parts of epidemiological models (e.g., model parameters, derivatives, or derivative orders). The outputs of the AI model are subsequently inputted into epidemiological models, which are solved using numerical solvers or simulations. For example, consider a scenario where differential equations are used to model the spread of an infectious disease. RNNs could be trained to predict future values of the reproduction number (R) based on its historical trends. These RNN-generated R values would then be incorporated into the differential equation model, which can be solved numerically (e.g., using Euler's or Runge-Kutta methods) to produce more accurate disease forecasts.
- Epidemiological models with improved observational data: In this framework, AI models are trained to improve observational data (e.g., refine observed data and estimate unobserved data), which are fed into epidemiological models for precise parameterization and calibration. For example, NLP methods can be employed to analyze social media posts for mentions of symptoms and illness, thus generating real-time disease activity data not available in traditional surveillance systems. Calibrated on these real-time data, epidemiological models can achieve greater precision and enable more proactive public health responses.
- Physics-informed neural networks/Epidemiology-aware AI models: In these frameworks, epidemiological knowledge, informed by disease transmission mechanisms, is incorporated into the architectures, loss functions, and training processes of AI models. As a subset of EAAMs, PINNs incorporate epidemiological knowledge into neural networks through the loss function, which includes a residual loss ensuring adherence to disease transmission mechanisms represented by differential equations.
- AI models with epidemiological input features: In AI models, features (also called variables or attributes) represent measurable properties or characteristics of the data used as input for training and prediction. For example, in image classification, color intensity values of each pixel serve as image features. In the context of integrated models, epidemiological input features refer specifically to parameters (e.g., the force of infection) or state variables (e.g., the size of the exposed population) derived from epidemiological models that have been calibrated using observational data. By incorporating such features, AI models can leverage the insights from epidemiological models to make more informed predictions and support better decision-making.
- Surrogate modeling/synthetically-trained AI models: Both frameworks employed AI models trained on simulated datasets generated by epidemiological models. In surrogate modeling, AI models are trained to emulate the behaviors of complex epidemiological models, enabling more efficient exploration of different scenarios without the need for computationally expensive simulations. While synthetically-trained AI models are

employed when real-world epidemiological data is scarce, costly to collect, or contains sensitive information. Synthetic datasets, generated by epidemiological models, provide an alternative, capturing real-world patterns while reducing costs and preserving privacy.

- Ensemble learning frameworks: This framework combines the forecasts of base models (including mechanistic epidemiological models and AI models) using aggregation methods, such as weighted averaging, stacking, and boosting, to produce more accurate and robust forecasts than any single model alone.
- Bayesian neural networks: Bayesian neural networks leverage the capabilities of neural networks in handling high-dimensional data to enhance traditional Bayesian approaches, including variational and simulation-based inference. These approaches attempt to approximate the posterior distribution of model parameters or transmission patterns given observed data, especially when faced with intractable likelihood or marginal likelihood. For example, in variational inference, neural networks can be used to form the variational approximation of the posterior distribution, optimized by maximizing the ELBO; In simulation-based inference, neural networks can be employed for density estimation in high dimensions, enabling posterior approximation with intractable likelihood functions.
- AI-enhanced optimization frameworks: This framework tackles tasks like transmission inference and intervention optimization in epidemiological modeling by formulating them as optimization problems. Each problem consists of (i) an objective function to be maximized or minimized, (ii) decision variables affecting the value of the objective function, and (iii) constraints that restrict the values of decision variables you can take. For example, in vaccination allocation problems, the objective function is the sum of illness costs and vaccination costs, decision variables are the number of vaccines allocated to different populations, and constraints are limited vaccine supply and the underlying disease transmission mechanism. AI enhances this framework in two primary ways: (i) Leveraging RL algorithms to learn the optimal decisions by training RL agents through interactions with environments built from epidemiological models, and (ii) Employing neural networks to approximate decision variables, thereby transforming the optimization problem into a parameter learning problem. This is achieved by training neural networks to minimize the loss function designed based on the objective function.
- Cluster-based transmission analysis frameworks: These frameworks employ AI models (specifically, clustering techniques) to group regions based on their characteristics relevant to disease transmission. These characteristics can be their transmission archetypes (e.g., rainfall patterns and vector species for malaria transmission) or disease activities predicted by epidemiological models. Clustering approaches offer two key advantages: (i) providing more efficient ways for transmission analysis by generalizing insights derived from representative regions to other regions and (ii) augmenting scarce data in individual regions by leveraging information from similar regions, thereby improving the accuracy of disease predictions.

Appendix 17. List of excluded studies and exclusion reasons

Title	First author (Published Year)	Publication	DOI	Exclusion reason
An accurate mathematical model predicting number of dengue cases in tropics	Edussuriya, C. (2021)	PLoS Negl Trop Dis	10.1371/journal.pntd.0009756	Not using eligible AI techniques or mechanistic epidemiological models
Active learning to understand infectious disease models and improve policy making	Willem, L. (2014)	PLoS Comput Biol	10.1371/journal.pcbi.1003563	Not using eligible AI techniques or mechanistic epidemiological models
An Agent-based Decision Support for a Vaccination Campaign	Sulis, E. (2021)	J Med Syst	10.1007/s10916-021-01772-1	Not using eligible AI techniques or mechanistic epidemiological models
Agent-based modeling of COVID-19 outbreaks for New York state and UK: Parameter identification algorithm	Krivorotko, O. (2022)	Infect Dis Model	10.1016/j.idm.2021.11.004	Not using eligible AI techniques or mechanistic epidemiological models
Analysis of the Effectiveness of Public Health Measures on COVID-19 Transmission	Silva, T. C. (2023)	Int J Environ Res Public Health	10.3390/ijerph20186758	Not using eligible AI techniques or mechanistic epidemiological models
Application of a time-delay SIR model with vaccination in COVID-19 prediction and its optimal control strategy	Dong, S. (2023)	Nonlinear Dyn	10.1007/s11071-023-08308-x	Not using eligible AI techniques or mechanistic epidemiological models
Applying the Spatial Transmission Network to the Forecast of Infectious Diseases Across Multiple Regions	Wang, H. (2022)	Front Public Health	10.3389/fpubh.2022.774984	No integration of AI techniques and mechanistic epidemiological models
Assessing the role of imported cases on the establishment of SARS-CoV-2 Delta variant of concern in Bolton, UK	Shingleton, J. (2022)	Epidemiol Infect	10.1017/s0950268821002776	No integration of AI techniques and mechanistic epidemiological models
BayesFlow: Learning Complex Stochastic Models With Invertible Neural Networks	Radev, S. T. (2022)	IEEE Trans Neural Netw Learn Syst	10.1109/tnnls.2020.3042395	Duplicates
Comparing and linking machine learning and semi-mechanistic models for the predictability of endemic measles dynamics	Lau, M. S. Y. (2022)	PLoS Comput Biol	10.1371/journal.pcbi.1010251	Not using eligible AI techniques or mechanistic epidemiological models
Computational Forecasting Methodology for Acute Respiratory Infectious Disease Dynamics	Gónzalez-Bandala, D. A. (2020)	Int J Environ Res Public Health	10.3390/ijerph17124540	Not using eligible AI techniques or mechanistic epidemiological models

A computational supervised neural network procedure for the fractional SIQ mathematical model	Mukdasai, K. (2023)	Eur Phys J Spec Top	10.1140/epjs/s11734-022-00738-9	No integration of AI techniques and mechanistic epidemiological models
COVID-19 and the flu: data simulations and computational modelling to guide public health strategies	Tunaligil, V. (2021)	Fam Pract	10.1093/fampra/cmab058	Not using eligible AI techniques or mechanistic epidemiological models
COVID-19: Short-term forecast of ICU beds in times of crisis	Goic, M. (2021)	PLoS One	10.1371/journal.pone.0245272	Not using eligible AI techniques or mechanistic epidemiological models
Cox process representation and inference for stochastic reaction-diffusion processes	Schnoerr, D. (2016)	Nat Commun	10.1038/ncomms11729	Not using eligible AI techniques or mechanistic epidemiological models
Critical dynamics in population vaccinating behavior	Pananos, A. D. (2017)	Proc Natl Acad Sci U S A	10.1073/pnas.1704093114	No integration of AI techniques and mechanistic epidemiological models
Deciphering the virulence of Mycobacterium avium subsp. paratuberculosis isolates in animal macrophages using mathematical models	Alonso-Hearn, M. (2019)	J Theor Biol	10.1016/j.jtbi.2019.01.040	Not studying infectious disease epidemiological modeling
A decision-tree to optimise control measures during the early stage of a foot-and-mouth disease epidemic	Tomassen, F. H. (2002)	Prev Vet Med	10.1016/s0167-5877(02)00053-3	Not using eligible AI techniques or mechanistic epidemiological models
Designing a hybrid reinforcement learning based algorithm with application in prediction of the COVID-19 pandemic in Quebec	Khalilpourazari, S. (2022)	Ann Oper Res	10.1007/s10479-020-03871-7	No integration of AI techniques and mechanistic epidemiological models
Detection of Xylella fastidiosa in almond orchards by synergic use of an epidemic spread model and remotely sensed plant traits	Camino, C. (2021)	Remote Sens Environ	10.1016/j.rse.2021.112420	Not using eligible AI techniques or mechanistic epidemiological models
Differential Neural Networks Prediction Using Slow and Fast Hybrid Learning: Application to Prognosis of Infectionsand Deaths of COVID-19 Dynamics	Poznyak, A. (2023)	Neural Process Lett	10.1007/s11063-023-11216-1	Not using eligible AI techniques or mechanistic epidemiological models
Disease control as an optimization problem	Navascués, M. (2021)	PLoS One	10.1371/journal.pone.0257958	Not using eligible AI techniques or mechanistic epidemiological models
Do bark beetle outbreaks amplify or dampen future bark beetle disturbances in Central Europe?	Sommerfeld, A. (2021)	J Ecol	10.1111/1365-2745.13502	Not studying infectious disease epidemiological modeling

Dynamics of Intestinal Carriage of Extended-Spectrum Beta-lactamase-Producing Enterobacteriaceae in the Dutch General Population, 2014-2016	van den Bunt, G. (2020)	Clin Infect Dis	10.1093/cid/ciz1091	No integration of AI techniques and mechanistic epidemiological models
Early Detection and Control of the Next Epidemic Wave Using Health Communications: Development of an Artificial Intelligence-Based Tool and Its Validation on COVID-19 Data from the US	Lazebnik, T. (2022)	Int J Environ Res Public Health	10.3390/ijerph192316023	No integration of AI techniques and mechanistic epidemiological models
EMULSION: Transparent and flexible multiscale stochastic models in human, animal and plant epidemiology	Picault, S. (2019)	PLoS Comput Biol	10.1371/journal.pcbi.1007342	Not using eligible AI techniques or mechanistic epidemiological models
Estimation of the main conditions in (SARS-CoV-2) Covid-19 patients that increase the risk of death using Machine learning, the case of Mexico	Guzmán-Torres, J. A. (2021)	Results Phys	10.1016/j.rinp.2021.104483	Not studying infectious disease epidemiological modeling
Evaluation of prediction models for the malaria incidence in Marodijeh Region, Somaliland	Mohamed, J. (2022)	J Parasit Dis	10.1007/s12639-021-01458-y	Not using eligible AI techniques or mechanistic epidemiological models
Exploration of machine learning models to predict the environmental and remote sensing risk factors of haemonchosis in sheep flocks of Rajasthan, India	Suresh, K. P. (2022)	Acta Trop	10.1016/j.actatropica.2022.106542	Not using eligible AI techniques or mechanistic epidemiological models
Extreme-scale Dynamic Exploration of a Distributed Agent-based Model with the EMEWS Framework	Ozik, J. (2018)	IEEE Trans Comput Soc Syst	10.1109/tcss.2018.2859189	Not using eligible AI techniques or mechanistic epidemiological models
Feasible intervention combinations for achieving a safe exit of the Zero-COVID policy in China and its determinants: an individual-based model study	Cheng, Q. (2023)	BMC Infect Dis	10.1186/s12879-023-08382-x	Not using eligible AI techniques or mechanistic epidemiological models
Financial analysis of pseudorabies control and eradication in swine	Rodrigues, C. A. (1990)	J Am Vet Med Assoc		Not using eligible AI techniques or mechanistic epidemiological models
Finding of the factors affecting the severity of COVID-19 based on mathematical models	Qu, J. (2021)	Sci Rep	10.1038/s41598-021-03632-x	Not studying infectious disease epidemiological modeling
Forecasting COVID-19 spreading through an ensemble of classical and machine learning models: Spain's case study	Heredia Cacha, I. (2023)	Sci Rep	10.1038/s41598-023-33795-8	No integration of AI techniques and mechanistic epidemiological models

Forecasting influenza activity using machine-learned mobility map	Venkatramanan, S. (2021)	Nat Commun	10.1038/s41467-021-21018-5	Not using eligible AI techniques or mechanistic epidemiological models
Forecasting new diseases in low-data settings using transfer learning	Roster, K. (2022)	Chaos Solitons Fractals	10.1016/j.chaos.2022.112306	Not using eligible AI techniques or mechanistic epidemiological models
Forecasting the long-term trend of COVID-19 epidemic using a dynamic model	Sun, J. (2020)	Sci Rep	10.1038/s41598-020-78084-w	Not using eligible AI techniques or mechanistic epidemiological models
Forecasting Trends in the Tuberculosis Epidemic Situation in the Region of the Russian Federation by Dynamic Simulation Model	Cherniaev, I. A. (2022)	Stud Health Technol Inform	10.3233/shti220990	Not using eligible AI techniques or mechanistic epidemiological models
Fuzzy-SIRD model: Forecasting COVID-19 death tolls considering governments intervention	Haghrah, A. A. (2022)	Artif Intell Med	10.1016/j.artmed.2022.102422	Not using eligible AI techniques or mechanistic epidemiological models
Global analysis and prediction scenario of infectious outbreaks by recurrent dynamic model and machine learning models: A case study on COVID-19	Rakhshan, S. A. (2023)	Comput Biol Med	10.1016/j.compbiomed.2023.106817	No integration of AI techniques and mechanistic epidemiological models
Graph Theory Based Large-Scale Machine Learning With Multi-Dimensional Constrained Optimization Approaches for Exact Epidemiological Modeling of Pandemic Diseases	Tutsoy, O. (2023)	IEEE Trans Pattern Anal Mach Intell	10.1109/tpami.2023.3256421	Not using eligible AI techniques or mechanistic epidemiological models
How residential energy consumption has changed due to COVID-19 pandemic? An agent-based model	Khalil, M. A. (2022)	Sustain Cities Soc	10.1016/j.scs.2022.103832	Not studying infectious disease epidemiological modeling
A hybrid forecasting technique for infection and death from the mpox virus	Iftikhar, H. (2023)	Digit Health	10.1177/20552076231204748	Not using eligible AI techniques or mechanistic epidemiological models
Inferring Plasmodium vivax transmission networks from tempo-spatial surveillance data	Shi, B. (2014)	PLoS Negl Trop Dis	10.1371/journal.pntd.0002682	Not using eligible AI techniques or mechanistic epidemiological models
Intelligent computing with Levenberg-Marquardt artificial neural networks for nonlinear system of COVID-19 epidemic model for future generation disease control	Cheema, T. N. (2020)	Eur Phys J Plus	10.1140/epjp/s13360-020-00910-x	No integration of AI techniques and mechanistic epidemiological models

Interval type-2 fuzzy computational model for real time Kalman filtering and forecasting of the dynamic spreading behavior of novel Coronavirus 2019	Dos Santos Gomes, D. C. (2022)	ISA Trans	10.1016/j.isatra.2022.03.031	Not using eligible AI techniques or mechanistic epidemiological models
Interval type-2 Fuzzy control and stochastic modeling of COVID-19 spread based on vaccination and social distancing rates	Rafiei, H. (2023)	Comput Methods Programs Biomed	10.1016/j.cmpb.2023.107443	Not using eligible AI techniques or mechanistic epidemiological models
IoT-based analysis for controlling & spreading prediction of COVID-19 in Saudi Arabia	Sharma, S. K. (2021)	Soft comput	10.1007/s00500-021-06024-5	No integration of AI techniques and mechanistic epidemiological models
Leveraging mathematical models of disease dynamics and machine learning to improve development of novel malaria interventions	Golumbeanu, M. (2022)	Infect Dis Poverty	10.1186/s40249-022-00981-1	Not using eligible AI techniques or mechanistic epidemiological models
Location of sources in reaction-diffusion equations using support vector machines	Chávez-Medina, V. (2019)	PLoS One	10.1371/journal.pone.0225593	Not using eligible AI techniques or mechanistic epidemiological models
Machine Learning Model for Imbalanced Cholera Dataset in Tanzania	Leo, J. (2019)	ScientificWorldJournal	10.1155/2019/9397578	Not using eligible AI techniques or mechanistic epidemiological models
Machine learning models for the prediction of the SEIRD variables for the COVID-19 pandemic based on a deep dependence analysis of variables	Quintero, Y. (2021)	Comput Biol Med	10.1016/j.compbiomed.2021.104500	Not using eligible AI techniques or mechanistic epidemiological models
A mathematical model of coronavirus transmission by using the heuristic computing neural networks	Sabir, Z. (2023)	Eng Anal Bound Elem	10.1016/j.enganabound.2022.10.033	No integration of AI techniques and mechanistic epidemiological models
Model Dynamics and Optimal Control for Intervention Policy of COVID-19 Epidemic with Quarantine and Immigrating Disturbances	Treesatayapun, C. (2022)	Bull Math Biol	10.1007/s11538-022-01080-w	Not using eligible AI techniques or mechanistic epidemiological models
A model to rate strategies for managing disease due to COVID-19 infection	Wang, S. (2020)	Sci Rep	10.1038/s41598-020-79817-7	Not using eligible AI techniques or mechanistic epidemiological models
A model-based investigation into urban-rural disparities in tuberculosis treatment outcomes under the Revised National Tuberculosis Control Programme in India	Singh, H. (2020)	PLoS One	10.1371/journal.pone.0228712	No integration of AI techniques and mechanistic epidemiological models

Modeling and Forecasting Monkeypox Cases Using Stochastic Models	Qureshi, M. (2022)	J Clin Med	10.3390/jcm11216555	Not using eligible AI techniques or mechanistic epidemiological models
Modeling and prediction of COVID-19 in Mexico applying mathematical and computational models	Torrealba-Rodriguez, O. (2020)	Chaos Solitons Fractals	10.1016/j.chaos.2020.109946	Not using eligible AI techniques or mechanistic epidemiological models
Modeling the trend of coronavirus disease 2019 and restoration of operational capability of metropolitan medical service in China: a machine learning and mathematical model-based analysis	Liu, Z. (2020)	Glob Health Res Policy	10.1186/s41256-020-00145-4	No integration of AI techniques and mechanistic epidemiological models
Modelization of Covid-19 pandemic spreading: A machine learning forecasting with relaxation scenarios of countermeasures	Lmater, M. A. (2021)	J Infect Public Health	10.1016/j.jiph.2021.01.004	Not using eligible AI techniques or mechanistic epidemiological models
A novel adaptive deep learning model of Covid-19 with focus on mortality reduction strategies	Farooq, J. (2020)	Chaos Solitons Fractals	10.1016/j.chaos.2020.110148	Duplicates
Of mice, flies--and men? Comparing fungal infection models for large-scale screening efforts	Brunke, S. (2015)	Dis Model Mech	10.1242/dmm.019901	Not studying infectious disease epidemiological modeling
Optimal dynamic empirical therapy in a health care facility: A Monte-Carlo look-ahead method	Houy, N. (2021)	Comput Methods Programs Biomed	10.1016/j.cmpb.2020.105767	Not using eligible AI techniques or mechanistic epidemiological models
Optimal Reopening Pathways With COVID-19 Vaccine Rollout and Emerging Variants of Concern	Xiao, Y. (2021)	Front Public Health	10.3389/fpubh.2021.729141	Not using eligible AI techniques or mechanistic epidemiological models
Optimal-design domain-adaptation for exposure prediction in two-stage epidemiological studies	Sarafian, R. (2022)	J Expo Sci Environ Epidemiol	10.1038/s41370-022-00438-5	Not studying infectious disease epidemiological modeling
PAN-cODE: COVID-19 forecasting using conditional latent ODEs	Shi, R. (2022)	J Am Med Inform Assoc	10.1093/jamia/ocac160	Not using eligible AI techniques or mechanistic epidemiological models
Pandemic lockdown, isolation, and exit policies based on machine learning predictions	Evgeniou, T. (2022)	Prod Oper Manag	10.1111/poms.13726	Not using eligible AI techniques or mechanistic epidemiological models
PolSIRD: Modeling Epidemic Spread Under Intervention Policies: Analyzing the First Wave of COVID-19 in the USA	Kamra, N. (2021)	J Healthc Inform Res	10.1007/s41666-021-00099-3	Not using eligible AI techniques or mechanistic epidemiological models

Predicting and analyzing the COVID-19 epidemic in China: Based on SEIRD, LSTM and GWR models	Liu, F. (2020)	PLoS One	10.1371/journal.pone.0238280	No integration of AI techniques and mechanistic epidemiological models
Predicting COVID-19 in very large countries: The case of Brazil	Parro, V. C. (2021)	PLoS One	10.1371/journal.pone.0253146	Not using eligible AI techniques or mechanistic epidemiological models
Predicting incidence of hepatitis E using machine learning in Jiangsu Province, China	Cheng, X. (2022)	Epidemiol Infect	10.1017/s0950268822001303	Not using eligible AI techniques or mechanistic epidemiological models
Prediction of COVID-19 Pandemic in Bangladesh: Dual Application of Susceptible-Infective-Recovered (SIR) and Machine Learning Approach	Haq, I. (2022)	Interdiscip Perspect Infect Dis	10.1155/2022/8570089	No integration of AI techniques and mechanistic epidemiological models
Prediction of Epidemic Disease Dynamics on the Infection Risk Using Machine Learning Algorithms	Palaniappan, S. (2022)	SN Comput Sci	10.1007/s42979-021-00902-3	Not using eligible AI techniques or mechanistic epidemiological models
Predictive Models for Forecasting Public Health Scenarios: Practical Experiences Applied during the First Wave of the COVID-19 Pandemic	Martin-Moreno, J. M. (2022)	Int J Environ Res Public Health	10.3390/ijerph19095546	Not reporting original research
The predictive skill of convolutional neural networks models for disease forecasting	Lee, K. (2021)	PLoS One	10.1371/journal.pone.0254319	Not using eligible AI techniques or mechanistic epidemiological models
Pyfectious: An individual-level simulator to discover optimal containment policies for epidemic diseases	Mehrjou, A. (2023)	PLoS Comput Biol	10.1371/journal.pcbi.1010799	Not using eligible AI techniques or mechanistic epidemiological models
Random forest variable selection in spatial malaria transmission modelling in Mpumalanga Province, South Africa	Kapwata, T. (2016)	Geospat Health	10.4081/gh.2016.434	Not using eligible AI techniques or mechanistic epidemiological models
Real-time monitoring of COVID-19 dynamics using automated trend fitting and anomaly detection	Jombart, T. (2021)	Philos Trans R Soc Lond B Biol Sci	10.1098/rstb.2020.0266	Not using eligible AI techniques or mechanistic epidemiological models
ReCognizing SUspect and PredictiNg ThE SpRead of Contagion Based on Mobile Phone LoCation DaTa (COUNTERACT): A system of identifying COVID-19 infectious and hazardous sites, detecting disease outbreaks based on the internet of things, edge	Ghayvat, H. (2021)	Sustain Cities Soc	10.1016/j.scs.2021.102798	Not using eligible AI techniques or mechanistic epidemiological models

computing, and artificial intelligence				
The relative importance of key meteorological factors affecting numbers of mosquito vectors of dengue fever	Liu, Y. (2023)	PLoS Negl Trop Dis	10.1371/journal.pntd.0011247	Not using eligible AI techniques or mechanistic epidemiological models
Risk-Aware Identification of Highly Suspected COVID-19 Cases in Social IoT: A Joint Graph Theory and Reinforcement Learning Approach	Wang, B. (2020)	IEEE Access	10.1109/access.2020.3003750	No integration of AI techniques and mechanistic epidemiological models
Seasonal influenza vaccination in Kenya: an economic evaluation using dynamic transmission modelling	Dawa, J. (2020)	BMC Med	10.1186/s12916-020-01687-7	Not using eligible AI techniques or mechanistic epidemiological models
Self organizing maps for the parametric analysis of COVID-19 SEIRS delayed model	Yu, Z. (2021)	Chaos Solitons Fractals	10.1016/j.chaos.2021.111202	Not using eligible AI techniques or mechanistic epidemiological models
Simple Inclusion of Complex Diagnostic Algorithms in Infectious Disease Models for Economic Evaluation	Dodd, P. J. (2018)	Med Decis Making	10.1177/0272989x18807438	Not using eligible AI techniques or mechanistic epidemiological models
Social Media Surveillance for Outbreak Projection via Transmission Models: Longitudinal Observational Study	Safarishahrbijari, A. (2019)	JMIR Public Health Surveill	10.2196/11615	Not using eligible AI techniques or mechanistic epidemiological models
Spatial heterogeneity affects predictions from early-curve fitting of pandemic outbreaks: a case study using population data from Denmark	Heltberg, M. L. (2022)	R Soc Open Sci	10.1098/rsos.220018	Not using eligible AI techniques or mechanistic epidemiological models
Spatio-temporal prediction of the COVID-19 pandemic in US counties: modeling with a deep LSTM neural network	Nikparvar, B. (2021)	Sci Rep	10.1038/s41598-021-01119-3	Not using eligible AI techniques or mechanistic epidemiological models
A stochastic numerical analysis based on hybrid NAR-RBFs networks nonlinear SITR model for novel COVID-19 dynamics	Shoaib, M. (2021)	Comput Methods Programs Biomed	10.1016/j.cmpb.2021.105973	No integration of AI techniques and mechanistic epidemiological models
A Study on a Neural Network Risk Simulation Model Construction for Avian Influenza A (H7N9) Outbreaks in Humans in China during 2013-2017	Dong, W. (2022)	Int J Environ Res Public Health	10.3390/ijerph191710877	Not using eligible AI techniques or mechanistic epidemiological models
Susceptible-Infected-Removed Mathematical Model under Deep Learning in Hospital Infection Control of Novel Coronavirus Pneumonia	Liu, T. (2021)	J Healthc Eng	10.1155/2021/1535046	Not using eligible AI techniques or mechanistic epidemiological models

System inference for the spatio-temporal evolution of infectious diseases: Michigan in the time of COVID-19	Wang, Z. (2020)	Comput Mech	10.1007/s00466-020-01894-2	No integration of AI techniques and mechanistic epidemiological models
Temporal deep learning architecture for prediction of COVID-19 cases in India	Verma, H. (2022)	Expert Syst Appl	10.1016/j.eswa.2022.116611	Not using eligible AI techniques or mechanistic epidemiological models
A time series-based statistical approach for outbreak spread forecasting: Application of COVID-19 in Greece	Katris, C. (2021)	Expert Syst Appl	10.1016/j.eswa.2020.114077	No integration of AI techniques and mechanistic epidemiological models
Transmission analysis of a large tuberculosis outbreak in London: a mathematical modelling study using genomic data	Xu, Y. (2020)	Microb Genom	10.1099/mgen.0.000450	Not using eligible AI techniques or mechanistic epidemiological models
Tropicalisation of epidemiological models in Africa: A mixed and hybrid approach to better predict COVID-19 indicators	Diouf, M. (2022)	Int J Health Plann Manage	10.1002/hpm.3459	Not using eligible AI techniques or mechanistic epidemiological models
Unfolding the Determinants of COVID-19 Vaccine Acceptance in China	Yin, F. (2021)	J Med Internet Res	10.2196/26089	Not studying infectious disease epidemiological modeling
Unsupervised machine learning predicts future sexual behaviour and sexually transmitted infections among HIV-positive men who have sex with men	Andresen, S. (2022)	PLoS Comput Biol	10.1371/journal.pcbi.1010559	Not using eligible AI techniques or mechanistic epidemiological models
Usage of Compartmental Models in Predicting COVID-19 Outbreaks	Zhang, P. (2022)	Aaps j	10.1208/s12248-022-00743-9	Not reporting original research
Using evidence, expert opinion and epidemiological model to understand pathways to survival and mortality: The Pathways to Survival (PATHS) Tool	Rudan, I. (2021)	J Glob Health	10.7189/jogh.11.15001	Not using eligible AI techniques or mechanistic epidemiological models
Vaccination, herd behavior, and herd immunity	Cohen, M. J. (2013)	Med Decis Making	10.1177/0272989x13487946	Not using eligible AI techniques or mechanistic epidemiological models
Who are the 'silent spreaders'?: contact tracing in spatio-temporal memory models	Hu, Y. (2022)	Neural Comput Appl	10.1007/s00521-022-07210-8	Not using eligible AI techniques or mechanistic epidemiological models
An advanced computing scheme for the numerical investigations of an infection-based fractional-order nonlinear prey-predator system	Sabir, Z. (2022)	PLoS One	10.1371/journal.pone.0265064	No integration of AI techniques and mechanistic epidemiological models

Age-Varying Susceptibility to the Delta Variant (B.1.617.2) of SARS-CoV-2	Chun, J. Y. (2022)	JAMA Network Open	10.1001/jamanetworkopen.2022.3064	Not using eligible AI techniques or mechanistic epidemiological models
Agent-based model projections for reducing HIV infection among MSM: Prevention and care pathways to end the HIV epidemic in Chicago, Illinois	Vermeer, W. (2022)	PLoS One	10.1371/journal.pone.0274288	Not using eligible AI techniques or mechanistic epidemiological models
alpha-Satellite: An AI-Driven System and Benchmark Datasets for Dynamic COVID-19 Risk Assessment in the United States	Ye, Y. (2020)	IEEE Journal of Biomedical and Health Informatics	10.1109/JBHI.2020.3009314	Not using eligible AI techniques or mechanistic epidemiological models
Artificial neural network scheme to solve the nonlinear influenza disease model	Sabir, Z. (2022)	Biomedical Signal Processing and Control	10.1016/j.bspc.2022.103594	No integration of AI techniques and mechanistic epidemiological models
Artificial neural network-based heuristic to solve COVID-19 model including government strategies and individual responses	Botmart, T. (2022)	Informatics in Medicine Unlocked	10.1016/j.imu.2022.101028	No integration of AI techniques and mechanistic epidemiological models
A computational stochastic procedure for solving the epidemic breathing transmission system	AbuAli, N. (2023)	Scientific reports	10.1038/s41598-023-43324-2	No integration of AI techniques and mechanistic epidemiological models
A data-driven eXtreme gradient boosting machine learning model to predict COVID-19 transmission with meteorological drivers	Rahman Md, S. (2022)	PLoS One	10.1371/journal.pone.0273319	Not using eligible AI techniques or mechanistic epidemiological models
Dengue Risk Forecast with Mosquito Vector: A Multicomponent Fusion Approach Based on Spatiotemporal Analysis	Li, L. (2022)	Computational and Mathematical Methods in Medicine	10.1155/2022/2515432	Not using eligible AI techniques or mechanistic epidemiological models
Detecting within-host interactions from genotype combination prevalence data	Alizon, S. (2019)	Epidemics	10.1016/j.epidem.2019.100349	Not using eligible AI techniques or mechanistic epidemiological models
Dynamical footprints enable detection of disease emergence	Brett, T. S. (2020)	PLoS Biology	10.1371/journal.pbio.3000697	Not using eligible AI techniques or mechanistic epidemiological models
Ecological niche modelling of Rift Valley fever virus vectors in Baringo, Kenya	Ochieng, A. O. (2016)	Infection Ecology and Epidemiology	10.3402/IEE.V6.32322	Not studying infectious disease epidemiological modeling
The economic impact of schistosomiasis	Rinaldo, D. (2021)	Infectious Diseases of Poverty	10.1186/s40249-021-00919-z	Not studying infectious disease epidemiological modeling
Estimating contact network properties by integrating multiple	Goyal, R. (2023)	Statistics in Medicine	10.1002/sim.9816	Not using eligible AI techniques or mechanistic epidemiological models

data sources associated with infectious diseases				
Estimation of parameters for a humidity-dependent compartmental model of the COVID-19 outbreak	Farkas, C. (2021)	PeerJ	10.7717/peerj.10790	Not using eligible AI techniques or mechanistic epidemiological models
Evaluating the bovine tuberculosis eradication mechanism and its risk factors in England's cattle farms	Sedighi, T. (2021)	International Journal of Environmental Research and Public Health	10.3390/ijerph18073451	Not using eligible AI techniques or mechanistic epidemiological models
Evaluating the InterVA model for determining AIDS mortality from verbal autopsies in the adult population of Addis Ababa	Tensou, B. (2010)	Tropical Medicine and International Health	10.1111/j.1365-3156.2010.02484.x	Not studying infectious disease epidemiological modeling
Evidence-driven spatiotemporal COVID-19 hospitalization prediction with Ising dynamics	Gao, J. (2023)	Nature Communications	10.1038/s41467-023-38756-3	Not using eligible AI techniques or mechanistic epidemiological models
EXPLORATION of the NOVEL CORONA VIRUS TRANSITION GRAPHS with PETRINET MODELING	Alam, F. (2021)	Biomedical Engineering - Applications, Basis and Communications	10.4015/S1016237221500289	Not using eligible AI techniques or mechanistic epidemiological models
Finding Asymptomatic Spreaders in a COVID-19 Transmission Network by Graph Attention Networks	Ma, Y. (2022)	Viruses	10.3390/v14081659	Not using eligible AI techniques or mechanistic epidemiological models
Forecasting and assessment of autochthonous yellow fever outbreak in Brazil	Rao, D. M. (2017)	American Journal of Tropical Medicine and Hygiene		Not reporting original research
Forecasting Ebola with a regression transmission model	Asher, J. (2018)	Epidemics	10.1016/j.epidem.2017.02.009	Not using eligible AI techniques or mechanistic epidemiological models
Fuzzy Approach Analyzing SEIR-SEI Dengue Dynamics	Bhuju, G. (2020)	BioMed Research International	10.1155/2020/1508613	Not using eligible AI techniques or mechanistic epidemiological models
Generation and robustness of Boolean networks to model Clostridium difficile infection	Travisany, D. (2020)	Natural Computing	10.1007/s11047-019-09730-0	Not studying infectious disease epidemiological modeling
Generation of realistic synthetic data using Multimodal Neural Ordinary Differential Equations	Wendland, P. (2022)	npj Digital Medicine	10.1038/s41746-022-00666-x	Not studying infectious disease epidemiological modeling
Heterogeneous local dynamics revealed by classification analysis of spatially disaggregated time series data	Perkins, T. A. (2019)	Epidemics	10.1016/j.epidem.2019.100357	No integration of AI techniques and mechanistic epidemiological models

Hopfield networks for identification of delay differential equations with an application to dengue fever epidemics in Cuba	Garcia-Garaluz, E. (2011)	Neurocomputing	10.1016/j.neucom.2011.03.022	Not using eligible AI techniques or mechanistic epidemiological models
A hybrid swarming computing approach to solve the biological nonlinear Leptospirosis system	Botmart, T. (2022)	Biomedical Signal Processing and Control	10.1016/j.bspc.2022.103789	No integration of AI techniques and mechanistic epidemiological models
Impact of public sentiments on the transmission of COVID-19 across a geographical gradient	Agusto, F. B. (2023)	PeerJ	10.7717/peerj.14736	Not using eligible AI techniques or mechanistic epidemiological models
An imprecise eco-epidemic model with pesticide in relevance to agricultural pest control	Das, A. (2018)	Biophysical Reviews and Letters	10.1142/S1793048018500066	Not using eligible AI techniques or mechanistic epidemiological models
Improving the precision of modeling the incidence of hemorrhagic fever with renal syndrome in mainland China with an ensemble machine learning approach	Ye, G. H. (2021)	PLoS One	10.1371/journal.pone.0248597	Not using eligible AI techniques or mechanistic epidemiological models
Informing adaptive management strategies: Evaluating a mechanism to predict the likely qualitative size of foot-and-mouth disease outbreaks in New Zealand using data available in the early response phase of simulated outbreaks	Sanson, R. L. (2021)	Transboundary and Emerging Diseases	10.1111/tbed.13820	Not using eligible AI techniques or mechanistic epidemiological models
Larvicidal activity prediction against Aedes aegypti mosquito using computational tools	Canizares-Carmenate, Y. (2017)	Journal of Vector Borne Diseases		Not studying infectious disease epidemiological modeling
Linear and non-linear dynamics of the epidemics: System identification based parametric prediction models for the pandemic outbreaks	Tutsoy, O. (2021)	ISA transactions.	10.1016/j.isatra.2021.08.008	Not using eligible AI techniques or mechanistic epidemiological models
Linear parameter varying model of COVID-19 pandemic exploiting basis functions	Abolpour, R. (2021)	Biomedical Signal Processing and Control	10.1016/j.bspc.2021.102999	Not using eligible AI techniques or mechanistic epidemiological models
Machine learning-based approaches to parameterizing individual-based models of malaria dynamics	Reiker, T. (2020)	American Journal of Tropical Medicine and Hygiene		Not reporting original research
Mid-Epidemic Forecasts of COVID-19 Cases and Deaths: A Bivariate Model Applied to the UK	Congdon, P. (2021)	Interdisciplinary Perspectives on Infectious Diseases	10.1155/2021/8847116	Not using eligible AI techniques or mechanistic epidemiological models
Modeling the impact of public response on the COVID-19 pandemic in Ontario	Eastman, B. (2021)	PLoS One	10.1371/journal.pone.0249456	Not using eligible AI techniques or mechanistic epidemiological models

Multi-objective T-S fuzzy control of Covid-19 spread model: An LMI approach	Najarzadeh, R. (2023)	Biomedical Signal Processing and Control	10.1016/j.bspc.2022.104107	Not using eligible AI techniques or mechanistic epidemiological models
Multi-weight susceptible-infected model for predicting COVID-19 in China	Zhang, J. (2023)	Neurocomputing	10.1016/j.neucom.2023.02.065	Not using eligible AI techniques or mechanistic epidemiological models
Multiscale dynamics of dog rabies elimination	Zinsstag, J. (2015)	Tropical Medicine and International Health	10.1111/tmi.12574	Not reporting original research
The NetCover algorithm for the reconstruction of causal networks	Fyson, N. (2012)	Neurocomputing	10.1016/j.neucom.2011.10.042	Not using eligible AI techniques or mechanistic epidemiological models
Numerical investigations through anns for solving covid-19 model	Umar, M. (2021)	International Journal of Environmental Research and Public Health	10.3390/ijerph182212192	No integration of AI techniques and mechanistic epidemiological models
On the temporal spreading of the SARS-CoV-2	Bertacchini, F. (2020)	PLoS One	10.1371/journal.pone.0240777	Not using eligible AI techniques or mechanistic epidemiological models
One-year lesson: Machine learning prediction of COVID-19 positive cases with meteorological data and mobility estimate in japan	Rashed, E. A. (2021)	International Journal of Environmental Research and Public Health	10.3390/ijerph181115736	Not using eligible AI techniques or mechanistic epidemiological models
Optimizing COVID-19 vaccine distribution across the United States using deterministic and stochastic recurrent neural networks	Davahli, M. R. (2021)	PLoS One	10.1371/journal.pone.0253925	Not using eligible AI techniques or mechanistic epidemiological models
Pattern Formation in a Model for Mountain Pine Beetle Dispersal: Linking Model Predictions to Data	Strohm, S. (2013)	Bulletin of Mathematical Biology	10.1007/s11538-013-9868-8	Not studying infectious disease epidemiological modeling
Phylodynamic inference with kernel ABC and its application to HIV epidemiology	Poon, A. F. Y. (2015)	Molecular Biology and Evolution	10.1093/molbev/msv123	Not using eligible AI techniques or mechanistic epidemiological models
Predicting dengue outbreaks at neighbourhood level using human mobility in urban areas: Predicting dengue outbreaks at neighbourhood level using human mobility in urban areas	Bomfim, R. (2020)	Journal of the Royal Society Interface	10.1098/rsif.2020.0691	No integration of AI techniques and mechanistic epidemiological models
Predicting infectious disease using deep learning and big data	Chae, S. (2018)	International Journal of Environmental Research and Public Health	10.3390/ijerph15081596	Not using eligible AI techniques or mechanistic epidemiological models

Predicting the Spatial-Temporal Distribution of Human Brucellosis in Europe Based on Convolutional Long Short-Term Memory Network	Shen, L. (2022)	Canadian Journal of Infectious Diseases and Medical Microbiology	10.1155/2022/7658880	Not using eligible AI techniques or mechanistic epidemiological models
Prediction and assessment of the impact of COVID-19 lockdown on air quality over Kolkata: a deep transfer learning approach	Dutta, D. (2023)	Environmental Monitoring and Assessment	10.1007/s10661-022-10761-x	Not studying infectious disease epidemiological modeling
Prediction for COVID-19's propagation in social time-dependent systems based on the dynamic graph neural networks	Li, H. (2022)	Asia-Pacific Journal of Clinical Oncology	10.1111/ajco.13830	Not reporting original research
Probabilistic transmission models incorporating sequencing data for healthcare-associated Clostridioides difficile outperform heuristic rules and identify strain-specific differences in transmission	Eyre, D. W. (2021)	PLoS Computational Biology	10.1371/journal.pcbi.1008417	Not using eligible AI techniques or mechanistic epidemiological models
Reaction order and neural network approaches for the simulation of COVID-19 spreading kinetic in India	Chakraborty, S. (2020)	Infectious Disease Modelling	10.1016/j.idm.2020.09.002	Not using eligible AI techniques or mechanistic epidemiological models
Real-time neural network based predictor for cov19 virus spread	Wieczorek, M. (2020)	PLoS One	10.1371/journal.pone.0243189	Not using eligible AI techniques or mechanistic epidemiological models
The research on the schistosomiasis transmission dynamic model based on artificial intelligence	Wan, C. (2011)	American Journal of Tropical Medicine and Hygiene		Not reporting original research
Sheep scab transmission: a spatially explicit dynamic metapopulation model	Nixon, E. (2021)	Veterinary Research	10.1186/s13567-021-00924-y	Not using eligible AI techniques or mechanistic epidemiological models
Solving an Infectious Disease Model considering Its Anatomical Variables with Stochastic Numerical Procedures	Sabir, Z. (2022)	Journal of Healthcare Engineering	10.1155/2022/3774123	No integration of AI techniques and mechanistic epidemiological models
Spatial-Temporal Determinants of Mdro Transmission Dynamics: Implications for Infection Control	Myall, A. (2023)	International Journal of Infectious Diseases	10.1016/j.ijid.2023.04.071	Not reporting original research
Spatiotemporal variation of the association between climate dynamics and HFRS outbreaks in Eastern China during 2005-2016 and its geographic determinants	He, J. (2018)	PLoS Neglected Tropical Diseases	10.1371/journal.pntd.0006554	Not using eligible AI techniques or mechanistic epidemiological models

A stochastic computing procedure to solve the dynamics of prevention in HIV system	Umar, M. (2022)	Biomedical Signal Processing and Control	10.1016/j.bspc.2022.103888	Not studying infectious disease epidemiological modeling
Time-specific ecological niche modeling predicts spatial dynamics of vector insects and human dengue cases	Peterson, A. T. (2005)	Transactions of the Royal Society of Tropical Medicine and Hygiene	10.1016/j.trstmh.2005.02.004	Not studying infectious disease epidemiological modeling
Tracking COVID-19 vaccine hesitancy and logistical challenges: A machine learning approach	Dutta, S. (2021)	PLoS One	10.1371/journal.pone.0252332	Retraction
TransCode: Uncovering COVID-19 transmission patterns via deep learning	Ren, J. (2023)	Infectious Diseases of Poverty	10.1186/s40249-023-01052-9	Not using eligible AI techniques or mechanistic epidemiological models
Transmission risk of Oropouche fever across the Americas	Romero-Alvarez, D. (2023)	Infectious Diseases of Poverty	10.1186/s40249-023-01091-2	Not studying infectious disease epidemiological modeling
Trend and prediction of COVID-19 outbreak in Iran: SEIR and ANFIS model	Shafiekhani, S. (2021)	Polish Journal of Medical Physics and Engineering	10.2478/pjmpe-2021-0029	No integration of AI techniques and mechanistic epidemiological models
Two-Stage Multi-Objective Stochastic Model on Patient Transfer and Relief Distribution in Lockdown Area of COVID-19	Long, S. (2023)	International Journal of Environmental Research and Public Health	10.3390/ijerph20031765	No integration of AI techniques and mechanistic epidemiological models
Using a latent Hawkes process for epidemiological modelling	Lamprinakou, S. (2023)	PLoS One	10.1371/journal.pone.0281370	Not using eligible AI techniques or mechanistic epidemiological models
A weighted ensemble model for prediction of infectious diseases	Shashvat, K. (2019)	Current Pharmaceutical Biotechnology	10.2174/1389201020666190612160631	Not using eligible AI techniques or mechanistic epidemiological models
Whose archetype is it, anyway? A machine learning approach for characterizing malaria transmission settings	Bertozzi-Villa, A. (2019)	American Journal of Tropical Medicine and Hygiene	10.4269/ajtmh.abstract2019	Not reporting original research
An Advanced Stochastic Numerical Approach for Host-Vector-Predator Nonlinear Model	Junswang, P. (2022)	Cmc-Computers Materials & Continua	10.32604/cmc.2022.027629	No integration of AI techniques and mechanistic epidemiological models
Advances in Break-up Date Forecasting Model Research in the Ningxia-Inner Mongolia Reach of the Yellow River	Gao, G. M. (2012)	21st IAHR International Symposium on Ice		Not studying infectious disease epidemiological modeling
Analysis and Prediction of COVID-19 in Xinjiang based on Machine Learning	Liu, Y. X. (2020)	5th International Conference on Information Science, Computer Technology and	10.1109/isctt51595.2020.00072	Not using eligible AI techniques or mechanistic epidemiological models

		Transportation (ISCTT)		
Analysis of Communicable Disease Symptoms Using Bag-of-Neural Network at Edge Networks	Nandy, S. (2023)	Ieee Sensors Journal	10.1109/jsen.2022.3167416	Not studying infectious disease epidemiological modeling
Analysis of Response to the Wild Hornet Crisis Based on the SIR Model	Gu, A. H. (2021)	Mathematical Problems in Engineering	10.1155/2021/2518472	Not studying infectious disease epidemiological modeling
Application of spatial multicriteria decision analysis in healthcare: Identifying drivers and triggers of infectious disease outbreaks using ensemble learning	Devarakonda, P. (2022)	Journal of Multi-Criteria Decision Analysis	10.1002/mcda.1732	Not using eligible AI techniques or mechanistic epidemiological models
Applications of artificial neural network to solve the nonlinear COVID-19 mathematical model based on the dynamics of SIQ	Sabir, Z. (2022)	Journal of Taibah University for Science	10.1080/16583655.2022.2119734	No integration of AI techniques and mechanistic epidemiological models
Artificial intelligence computing analysis of fractional order COVID-19 epidemic model	Raza, A. (2023)	Aip Advances	10.1063/5.0163868	No integration of AI techniques and mechanistic epidemiological models
Artificial intelligence knacks-based computing for stochastic COVID-19 SIRC epidemic model with time delay	Shoaib, M. (2022)	International Journal of Modern Physics B	10.1142/s0217979222501740	No integration of AI techniques and mechanistic epidemiological models
Artificial neural network procedures for the waterborne spread and control of diseases	Ruttanapromm arin, N. (2023)	Aims Mathematics	10.3934/math.2023126	No integration of AI techniques and mechanistic epidemiological models
Artificial neural network scheme to solve the hepatitis B virus model	Haider, Q. (2023)	Frontiers in Applied Mathematics and Statistics	10.3389/fams.2023.1072447	No integration of AI techniques and mechanistic epidemiological models
A Bio-Inspired Neural Network for Modelling COVID-19 Transmission in Canada	Zhang, L. (2022)	Canadian Conference on Electrical and Computer Engineering (CCECE)	10.1109/ccece49351.2022.9918369	Not using eligible AI techniques or mechanistic epidemiological models
Cascade SEIRD: Forecasting the Spread of COVID-19 with Dynamic Parameters Update	Wen, Y. L. (2020)	IEEE International Conference on Bioinformatics and Biomedicine (IEEE BIBM)	10.1109/bibm49941.2020.9313525	Not using eligible AI techniques or mechanistic epidemiological models
A case study of monkeypox disease in the United States using mathematical modeling with real data	Kumar, P. (2023)	Mathematics and Computers in Simulation	10.1016/j.matcom.2023.06.016	No integration of AI techniques and mechanistic epidemiological models

Comparative Analysis of Approaches to Prediction of Quantitative Parameters During a Pandemic	Kolomensiy, V. (2021)	IEEE Conference of Russian Young Researchers in Electrical and Electronic Engineering (ElConRus)	10.1109/ElConRus51938.2021.9396350	No integration of AI techniques and mechanistic epidemiological models
A complex network-based vaccination strategy for infectious diseases	Sun, L. H. (2023)	Applied Soft Computing	10.1016/j.asoc.2023.110081	Not using eligible AI techniques or mechanistic epidemiological models
Computational Intelligent Paradigms to Solve the Nonlinear SIR System for Spreading Infection and Treatment Using Levenberg-Marquardt Backpropagation	Umar, M. (2021)	Symmetry-Basel	10.3390/sym13040618	No integration of AI techniques and mechanistic epidemiological models
Convolution-based Machine Learning To Attenuate Covid-19's Infections in Large Cities	Nieto-Chaupis, H. (2020)	3rd IEEE International Conference on Artificial Intelligence and Knowledge Engineering AIKE 2020	10.1109/aike48582.2020.00044	Not using eligible AI techniques or mechanistic epidemiological models
Coupled and uncoupled dynamic mode decomposition in multi-compartmental systems with applications to epidemiological and additive manufacturing problems	Viguerie, A. (2022)	Computer Methods in Applied Mechanics and Engineering	10.1016/j.cma.2022.114600	Not using eligible AI techniques or mechanistic epidemiological models
Coupled Graph ODE for Learning Interacting System Dynamics	Huang, Z. J. (2021)	27th ACM SIGKDD International Conference on Knowledge Discovery and Data Mining (KDD)	10.1145/3447548.3467385	Not using eligible AI techniques or mechanistic epidemiological models
COVID-19 Epidemic and Opening of the Schools: Artificial Intelligence-Based Long-Term Adaptive Policy Making to Control the Pandemic Diseases	Tutsoy, O. (2021)	IEEE Access	10.1109/access.2021.3078080	Not using eligible AI techniques or mechanistic epidemiological models
CPAS: the UK's national machine learning-based hospital capacity planning system for COVID-19	Qian, Z. Z. (2021)	Machine Learning	10.1007/s10994-020-05921-4	No integration of AI techniques and mechanistic epidemiological models
Current forecast of COVID-19 in Mexico: A Bayesian and machine learning approaches	Prietoid, K. (2022)	PLoS One	10.1371/journal.pone.0259958	Not using eligible AI techniques or mechanistic epidemiological models

Data Analytics for the COVID-19 Epidemic	Wang, R. R. (2020)	44th Annual IEEE-Computer-Society International Conference on Computers, Software, and Applications (COMPSAC)	10.1109/compsac48688.2020.00-83	Not using eligible AI techniques or mechanistic epidemiological models
Data-Driven Modeling to Facilitate Policymaking in Fighting to Contain the COVID-19 Pandemic	Qiu, R. G. (2021)	Complex Adaptive Systems Conference on Big Data, IoT, and AI for a Smarter Future	10.1016/j.procs.2021.05.034	Framework only
Dengue control measures via cytoplasmic incompatibility and modern programming tools	Sohail, A. (2021)	Results in Physics	10.1016/j.rinp.2021.103819	Not using eligible AI techniques or mechanistic epidemiological models
Design of backpropagated neurocomputing paradigm for Stuxnet virus dynamics in control infrastructure	Raja, M. A. Z. (2022)	Neural Computing & Applications	10.1007/s00521-021-06721-0	Not studying infectious disease epidemiological modeling
DESIGN OF BIO-INSPIRED HEURISTIC TECHNIQUE INTEGRATED WITH SEQUENTIAL QUADRATIC PROGRAMMING FOR NONLINEAR MODEL OF PINE WILT DISEASE	Shoaib, M. (2023)	Fractals-Complex Geometry Patterns and Scaling in Nature and Society	10.1142/s0218348x23401485	No integration of AI techniques and mechanistic epidemiological models
A design of predictive computational network for the analysis of fractional epidemical predictor-prey model	Shoaib, M. (2022)	Chaos Solitons & Fractals	10.1016/j.chaos.2022.112812	No integration of AI techniques and mechanistic epidemiological models
A design of predictive computational network for transmission model of Lassa fever in Nigeria	Shoaib, M. (2022)	Results in Physics	10.1016/j.rinp.2022.105713	No integration of AI techniques and mechanistic epidemiological models
Designing of Morlet wavelet as a neural network for a novel prevention category in the HIV system	Sabir, Z. (2022)	International Journal of Biomathematics	10.1142/s1793524522500127	No integration of AI techniques and mechanistic epidemiological models
Detecting susceptible communities and individuals in hospital contact networks: a model based on social network analysis	Yang, Y. X. (2023)	Connection Science	10.1080/09540091.2023.2236810	Not using eligible AI techniques or mechanistic epidemiological models
Development of an empirical tomato crop disease model: a case study on gray leaf spot	Wang, H. (2020)	European Journal of Plant Pathology	10.1007/s10658-019-01897-7	Not using eligible AI techniques or mechanistic epidemiological models

A Dual Long Short-Term Memory Model in Forecasting the Number of COVID-19 Infections	Lai, J. P. (2023)	Electronics	10.3390/electronics12030759	No integration of AI techniques and mechanistic epidemiological models
Dynamics of Fractional Differential Model for Schistosomiasis Disease	Botmart, T. (2022)	Cmc-Computers Materials & Continua	10.32604/cmc.2022.028921	No integration of AI techniques and mechanistic epidemiological models
Effective and scalable methods for graph protection strategies against epidemics on dynamic networks	Wijayanto, A. W. (2019)	Applied Network Science	10.1007/s41109-019-0122-7	No integration of AI techniques and mechanistic epidemiological models
An efficient computational procedure to solve the biological nonlinear Leptospirosis model using the genetic algorithms	Sabir, Z. (2023)	Soft Computing	10.1007/s00500-023-08315-5	No integration of AI techniques and mechanistic epidemiological models
Employing Fuzzy Logic to Analyze the Structure of Complex Biological and Epidemic Spreading Models	Lefevr, N. (2021)	Mathematics	10.3390/math9090977	Not using eligible AI techniques or mechanistic epidemiological models
Environmental structure drives resistance to phages and antibiotics during phage therapy and to invading lysogens during colonisation	de Sousa, J. A. M. (2019)	Scientific reports	10.1038/s41598-019-39773-3	Not studying infectious disease epidemiological modeling
Epidemic Graph Convolutional Network	Derr, T. (2020)	13th Annual ACM International Conference on Web Search and Data Mining (WSDM)	10.1145/3336191.3371807	Not studying infectious disease epidemiological modeling
EpiGNN: Exploring Spatial Transmission with Graph Neural Network for Regional Epidemic Forecasting	Xie, F. (2022)	European Conference on Machine Learning and Principles and Practice of Knowledge Discovery in Databases (ECML-PKDD)	10.1007/978-3-031-26422-1_29	Not using eligible AI techniques or mechanistic epidemiological models
ESTIMATING THE TIME-DEPENDENT CONTACT RATE OF SIR AND SEIR MODELS IN MATHEMATICAL EPIDEMIOLOGY USING PHYSICS-INFORMED NEURAL NETWORKS	Grimm, V. (2022)	Electronic Transactions on Numerical Analysis	10.1553/etna_vol56s1	Duplicates
Estimation and demographic analysis of COVID-19 infections with respect to weather factors in Europe	Ahangar, R. G. (2020)	Journal of Business Analytics	10.1080/2573234x.2020.1832866	Not using eligible AI techniques or mechanistic epidemiological models

Estimation of COVID-19 epidemic curves using genetic programming algorithm	Andelic, N. (2021)	Health informatics journal	10.1177/1460458220976728	Not using eligible AI techniques or mechanistic epidemiological models
Estimation of the parameters of an infectious disease model using neural networks	Rao, V. S. H. (2010)	Nonlinear Analysis-Real World Applications	10.1016/j.nonrwa.2009.04.006	No integration of AI techniques and mechanistic epidemiological models
Evaluating a Prediction-Driven Targeting Strategy for Reducing the Transmission of Multidrug-Resistant Organisms	Barnes, S. L. (2020)	Informs Journal on Computing	10.1287/ijoc.2019.0916	Not using eligible AI techniques or mechanistic epidemiological models
Examining the Factors Influencing the Mobile Learning Usage During COVID-19 Pandemic: An Integrated SEM-ANN Method	Alhumaid, K. (2021)	IEEE Access	10.1109/access.2021.3097753	Not studying infectious disease epidemiological modeling
Existence and Uniqueness of Caputo Fractional Predator-Prey Model of Holling-Type II with Numerical Simulations	Al Themairi, A. (2021)	Mathematical Problems in Engineering	10.1155/2021/2990958	Not using eligible AI techniques or mechanistic epidemiological models
Forecasting the Magnitude of Dengue in Southern Vietnam	Dinh, T. Q. (2016)	8th Asian Conference on Intelligent Information and Database Systems (ACIIDS)	10.1007/978-3-662-49381-6_53	Not using eligible AI techniques or mechanistic epidemiological models
Fractional sliding mode based on RBF neural network observer: Application to HIV infection mathematical model	Sharafian, A. (2020)	Computers & Mathematics with Applications	10.1016/j.camwa.2020.01.014	Not studying infectious disease epidemiological modeling
From Prediction to Prescription: Evolutionary Optimization of Nonpharmaceutical Interventions in the COVID-19 Pandemic	Miikkulainen, R. (2021)	Ieee Transactions on Evolutionary Computation	10.1109/tevc.2021.3063217	Not using eligible AI techniques or mechanistic epidemiological models
Global sensitivity analysis in epidemiological modeling Global sensitivity analysis in epidemiological modeling	Lu, X. F. (2023)	European Journal of Operational Research	10.1016/j.ejor.2021.11.018	Not using eligible AI techniques or mechanistic epidemiological models
Highly efficient epidemic spreading model based LPA threshold community detection method	Deng, X. L. (2016)	Neurocomputing	10.1016/j.neucom.2015.10.142	Not studying infectious disease epidemiological modeling
Hybrid Modeling of Regional COVID-19 Transmission Dynamics in the US	Bai, Y. (2022)	Ieee Journal of Selected Topics in Signal Processing	10.1109/jstsp.2022.3140703	Not using eligible AI techniques or mechanistic epidemiological models

Identifying influential neighbors in social networks and venue affiliations among young MSM: a data science approach to predict HIV infection	Xiang, Y. (2021)	Aids	10.1097/qad.0000000000002784	Not using eligible AI techniques or mechanistic epidemiological models
Integrated neuro-swarm heuristic with interior-point for nonlinear SITR model for dynamics of novel COVID-19	Umar, M. (2021)	Alexandria Engineering Journal	10.1016/j.aej.2021.01.043	No integration of AI techniques and mechanistic epidemiological models
Intelligent computing based supervised learning for solving nonlinear system of malaria endemic model	Ahmad, I. (2022)	Aims Mathematics	10.3934/math.20221114	No integration of AI techniques and mechanistic epidemiological models
Intelligent computing networks for nonlinear influenza-A epidemic model	Anwar, N. (2023)	International Journal of Biomathematics	10.1142/s1793524522500978	No integration of AI techniques and mechanistic epidemiological models
Intelligent networks knacks for numerical treatment of nonlinear multi-delays SVEIR epidemic systems with vaccination	Shoaib, M. (2022)	International Journal of Modern Physics B	10.1142/s0217979222501004	No integration of AI techniques and mechanistic epidemiological models
Intelligent neuro-computing to analyze the awareness programs of fractional epidemic system outbreaks	Nisar, K. S. (2023)	Journal of King Saud University Science	10.1016/j.jksus.2023.102691	No integration of AI techniques and mechanistic epidemiological models
Inverse Optimal Impulsive Neural Control for Complex Networks Applied to Epidemic Diseases	Ramirez, N. F. (2022)	Systems	10.3390/systems10060204	No integration of AI techniques and mechanistic epidemiological models
Investigation of Statistical Machine Learning Models for COVID-19 Epidemic Process Simulation: Random Forest, K-Nearest Neighbors, Gradient Boosting	Chumachenko, D. (2022)	Computation	10.3390/computation10060086	Not using eligible AI techniques or mechanistic epidemiological models
An Investigation Through Stochastic Procedures for Solving the Fractional Order Computer Virus Propagation Mathematical Model with Kill Signals	Sabir, Z. (2023)	Neural Processing Letters	10.1007/s11063-022-10963-x	Not studying infectious disease epidemiological modeling
Knowledge-based Deep Learning for Modeling Chaotic Systems	Elabid, Z. (2022)	21st IEEE International Conference on Machine Learning and Applications (IEEE ICMLA)	10.1109/icmla55696.2022.00194	Not using eligible AI techniques or mechanistic epidemiological models
A large-scale simulation model of pandemic influenza outbreaks for development of dynamic mitigation strategies	Das, T. K. (2008)	Iie Transactions	10.1080/07408170802165856	Framework only

Learning parameters of a system of variable order fractional differential equations	Singh, A. K. (2023)	Numerical Methods for Partial Differential Equations	10.1002/num.22796	Not using eligible AI techniques or mechanistic epidemiological models
Limits of Compartmental Models and New Opportunities for Machine Learning: A Case Study to Forecast the Second Wave of COVID-19 Hospitalizations in Lombardy, Italy	Gatto, A. (2021)	Informatics-Basel	10.3390/informatics8030057	Not using eligible AI techniques or mechanistic epidemiological models
MATHEMATICAL MODEL OF COVID-19 TRANSMISSIBILITY DURING THE VACCINATION PERIOD	Aqel, F. (2023)	Eurasian Journal of Mathematical and Computer Applications	10.32523/2306-6172-2023-11-1-4-28	No integration of AI techniques and mechanistic epidemiological models
Mathematical modeling and multi-agents approach for the evolution of the Coronavirus pandemic	Aboulaich, R. (2020)	IEEE International Conference on Technology Management, Operations and Decisions (ICTMOD)	10.1109/ictmod49425.2020.9380596	Not using eligible AI techniques or mechanistic epidemiological models
Mathematical modelling for prediction of spread of corona virus and artificial intelligence/machine learning-based technique to detect COVID-19 via smartphone sensors	Goyal, S. (2022)	International Journal of Modelling Identification and Control	10.1504/ijmic.2022.127096	Full text not available
Mathematical study of nematode transmission in pine trees through bark beetles	Hussain, T. (2022)	Chaos Solitons & Fractals	10.1016/j.chaos.2022.112297	No integration of AI techniques and mechanistic epidemiological models
Measurement Method for Evaluating the Lockdown Policies during the COVID-19 Pandemic	Al Zobbi, M. (2020)	International Journal of Environmental Research and Public Health	10.3390/ijerph17155574	Not using eligible AI techniques or mechanistic epidemiological models
Measuring and Preventing COVID-19 Using the SIR Model and Machine Learning in Smart Health Care	Alanazi, S. A. (2020)	Journal of Healthcare Engineering	10.1155/2020/8857346	Not using eligible AI techniques or mechanistic epidemiological models
Model-Based Prediction and Optimal Control of Pandemics by Non-Pharmaceutical Interventions	Sameni, R. (2022)	Ieee Journal of Selected Topics in Signal Processing	10.1109/jstsp.2021.3129118	Not using eligible AI techniques or mechanistic epidemiological models
MODELADO EPIDEMIOLOGICO CON LOS MODELOS DINAMICOS SIR Y ARIMA Y APRENDIZAJE AUTOMATIZADO PARA PREDECIR EL	Castillero, R. (2022)	8th International Engineering, Sciences and Technology Conference (IESTEC)	10.1109/iestec54539.2022.00049	English translation not available

COMPORTAMIENTO FUTURO DEL COVID-19 EN PANAMA				
Modeling and Prediction of the Covid-19 Cases With Deep Assessment Methodology and Fractional Calculus	Karacuha, E. (2020)	IEEE Access	10.1109/access.2020.3021952	No integration of AI techniques and mechanistic epidemiological models
Modeling systems with machine learning based differential equations	García, P. (2022)	Chaos Solitons & Fractals	10.1016/j.chaos.2022.112872	Not using eligible AI techniques or mechanistic epidemiological models
Modeling the Geospatial Evolution of COVID-19 using Spatio-temporal Convolutional Sequence-to-sequence Neural Networks	Cardoso, M. (2022)	Acm Transactions on Spatial Algorithms and Systems	10.1145/3550272	No integration of AI techniques and mechanistic epidemiological models
Modelling and analysis of COVID-19 epidemic in India	Tiwari, A. (2020)	Journal of Safety Science and Resilience	10.1016/j.jnlssr.2020.11.005	Not using eligible AI techniques or mechanistic epidemiological models
Modelling the fourth wave of Covid-19 pandemic in Egypt	Moneim, I. A. (2023)	Journal of Mathematics and Computer Science-Jmcs	10.22436/jmcs.029.01.05	No integration of AI techniques and mechanistic epidemiological models
Modelling the H1N1 influenza using mathematical and neural network approaches	Lopez, D. (2017)	Biomedical Research-India		No integration of AI techniques and mechanistic epidemiological models
Modified Machine Learning Techique for Curve Fitting on Regression Models for COVID-19 projections	Andreas, A. (2020)	25th IEEE International Workshop on Computer Aided Modeling and Design of Communication Links and Networks (IEEE CAMAD)	10.1109/camad50429.2020.9209264	Not using eligible AI techniques or mechanistic epidemiological models
Multi-Agent simulation modeling of Corona Virus Disease 2019 transmission based on various age groups	Pan, L. H. (2021)	3rd International Conference on Machine Learning, Big Data and Business Intelligence (MLBDBI)	10.1109/mlbdbi54094.2021.00029	Not using eligible AI techniques or mechanistic epidemiological models
Multi-class classification and modeling of the hospitalization status of COVID-19 patients	Adetiloye, T. O. (2022)	4th IEEE-Nigeria-Section International Conference on Disruptive Technologies for Sustainable Development	10.1109/nigercon54645.2022.9803121	Not studying infectious disease epidemiological modeling

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Multi-Network-Based Ensemble Deep Learning Model to Forecast Ross River Virus Outbreak in Australia	Sakib, M. (2023)	International Journal of Pattern Recognition and Artificial Intelligence	10.1142/s0218001423520158	Not using eligible AI techniques or mechanistic epidemiological models
Multidigraph Autocatalytic Set for Modelling Complex Systems	Kasmin, N. K. (2023)	Mathematics	10.3390/math11040912	Not using eligible AI techniques or mechanistic epidemiological models
Neural Control for Epidemic Model of Covid-19 with a Complex Network Approach	Alanis, A. Y. (2021)	Ieee Latin America Transactions	10.1109/tla.2021.9451230	English translation not available
NEURAL NETWORK MODELING OF THE ECONOMIC AND SOCIAL DEVELOPMENT TRAJECTORY TRANSFORMATION DUE TO QUARANTINE RESTRICTIONS DURING COVID-19	Vasilyeva, T. (2021)	Economics & Sociology	10.14254/2071-789x.2021/14-2/17	Not studying infectious disease epidemiological modeling
Neuro-Evolutionary Computing Paradigm for the SIR Model Based on Infection Spread and Treatment	Gómez-Aguilar, J. F. (2023)	Neural Processing Letters	10.1007/s11063-022-11045-8	No integration of AI techniques and mechanistic epidemiological models
Numerical computing with Levenberg-Marquardt backpropagation networks for nonlinear SEIR Ebola virus epidemic model	Cheema, T. N. (2021)	Aip Advances	10.1063/5.0056196	No integration of AI techniques and mechanistic epidemiological models
NUMERICAL PERFORMANCE USING THE NEURAL NETWORKS TO SOLVE THE NONLINEAR BIOLOGICAL QUARANTINED BASED COVID-19 MODEL	Sabir, Z. (2023)	Atti Accademia Peloritana Dei Pericolanti-Classe Di Scienze Fisiche Matematiche E Naturali	10.1478/aapp.1011a10	No integration of AI techniques and mechanistic epidemiological models
Numerical Simulations of Vaccination and Wolbachia on Dengue Transmission Dynamics in the Nonlinear Model	Junsawang, P. (2022)	IEEE Access	10.1109/access.2022.3159813	No integration of AI techniques and mechanistic epidemiological models
Numerical solutions of the Wolbachia invasive model using Levenberg-Marquardt backpropagation neural network technique	Faiz, Z. (2023)	Results in Physics	10.1016/j.rinp.2023.106602	Not studying infectious disease epidemiological modeling

A Numerical Study of the Fractional Order Dynamical Nonlinear Susceptible Infected and Quarantine Differential Model Using the Stochastic Numerical Approach	Botmart, T. (2022)	Fractal and Fractional	10.3390/fractalfract6030139	No integration of AI techniques and mechanistic epidemiological models
Numerical treatment on the new fractional-order SIDARTHE COVID-19 pandemic differential model via neural networks	Akkilic, A. N. (2022)	European Physical Journal Plus	10.1140/epjp/s13360-022-02525-w	No integration of AI techniques and mechanistic epidemiological models
Optimal control strategy for COVID-19 developed using an AI-based learning method	Kakulapati, V. (2023)	Journal of Experimental & Theoretical Artificial Intelligence	10.1080/0952813x.2023.2256733	Not studying infectious disease epidemiological modeling
Optimal Neural Network Model for Short-Term Prediction of Confirmed Cases in the COVID-19 Pandemic	Milic, M. (2022)	Mathematics	10.3390/math10203804	Not using eligible AI techniques or mechanistic epidemiological models
Optimisation of COVID-19 vaccination process using GIS, machine learning, and the multi-layered transportation model	Mengüç, K. (2023)	International Journal of Production Research	10.1080/00207543.2023.2182151	Not using eligible AI techniques or mechanistic epidemiological models
Optimisation of Non-Pharmaceutical Measures in COVID-19 Growth via Neural Networks	Riccardi, A. (2021)	Ieee Transactions on Emerging Topics in Computational Intelligence	10.1109/tetci.2020.3046012	Not using eligible AI techniques or mechanistic epidemiological models
Optimization of Coronavirus Pandemic Model Through Artificial Intelligence	Alqarni, M. M. (2023)	Cmc-Computers Materials & Continua	10.32604/cmc.2023.033283	No integration of AI techniques and mechanistic epidemiological models
PAMELA: a generic and light multi-agent platform	Dafflon, B. (2021)	IEEE 33rd International Conference on Tools with Artificial Intelligence (ICTAI)	10.1109/ictai52525.2021.00226	Not using eligible AI techniques or mechanistic epidemiological models
Parameter Estimation in Hybrid Machine Learning and Mechanistic Models of Infectious Diseases	Jhutty, S. S. (2022)	18th IFAC Workshop on Control Applications of Optimization (CAO)	10.1016/j.ifacol.2022.09.020	Not studying infectious disease epidemiological modeling
Parameter synthesis of polynomial dynamical systems	Casagrande, A. (2022)	Information and Computation	10.1016/j.ic.2022.104941	Not using eligible AI techniques or mechanistic epidemiological models

Parameters estimation in Ebola virus transmission dynamics model based on machine learning	Gong, J. (2019)	Physica a-Statistical Mechanics and Its Applications	10.1016/j.physa.2019.122604	Not using eligible AI techniques or mechanistic epidemiological models
Partially versus Purely Data-Driven Approaches in SARS-CoV-2 Prediction	Shilbayeh, S. A. (2020)	Applied Sciences-Basel	10.3390/app10165696	Not using eligible AI techniques or mechanistic epidemiological models
Performance of Univariate Forecasting on Seasonal Diseases: The Case of Tuberculosis	Permanasari, A. E. (2011)	Software Tools and Algorithms for Biological Systems	10.1007/978-1-4419-7046-6_17	Not using eligible AI techniques or mechanistic epidemiological models
Pervasive computing in the context of COVID-19 prediction with AI-based algorithms	Magesh, S. (2020)	International Journal of Pervasive Computing and Communications	10.1108/ijpcc-07-2020-0082	No integration of AI techniques and mechanistic epidemiological models
Pharmacological, Non-Pharmacological Policies and Mutation: An Artificial Intelligence Based Multi-Dimensional Policy Making Algorithm for Controlling the Casualties of the Pandemic Diseases	Tutsoy, O. (2022)	IEEE transactions on pattern analysis and machine intelligence	10.1109/tpami.2021.3127674	Not using eligible AI techniques or mechanistic epidemiological models
Phylodynamic analysis of an emergent Mycobacterium bovis outbreak in an area with no previously known wildlife infections	Rossi, G. (2022)	Journal of Applied Ecology	10.1111/1365-2664.14046	No integration of AI techniques and mechanistic epidemiological models
A population data-driven workflow for COVID-19 modeling and learning	Ozik, J. (2021)	International Journal of High Performance Computing Applications	10.1177/10943420211035164	Not using eligible AI techniques or mechanistic epidemiological models
Predictability of COVID-19 Infections Based on Deep Learning and Historical Data	Zreiq, R. (2022)	Applied Sciences-Basel	10.3390/app12168029	Not using eligible AI techniques or mechanistic epidemiological models
Predicting and monitoring COVID-19 epidemic trends in India using sequence-to-sequence model and an adaptive SEIR model	Gupta, K. D. (2022)	Open Computer Science	10.1515/comp-2020-0221	No integration of AI techniques and mechanistic epidemiological models
Predicting the Death Rate Around the World Due to COVID-19 Using Regression Analysis	Nair, R. (2022)	International Journal of Swarm Intelligence Research	10.4018/ijsir.287545	Full text not available
Predicting the growth and trend of COVID-19 pandemic using machine learning and cloud computing	Tuli, S. (2020)	Internet of Things	10.1016/j.iot.2020.100222	Not using eligible AI techniques or mechanistic epidemiological models

Predicting the spread of COVID-19 with a machine learning technique and multiplicative calculus	Bilgehan, B. (2022)	Soft Computing	10.1007/s00500-022-06996-y	Not using eligible AI techniques or mechanistic epidemiological models
Prediction of asymptomatic COVID-19 infections based on complex network	Chen, Y. L. (2023)	Optimal Control Applications & Methods	10.1002/oca.2806	Not using eligible AI techniques or mechanistic epidemiological models
Prediction of COVID-19 Infected Population for Indian States through a State Interaction Network-based SEIR Epidemic Model	Mallick, P. (2022)	7th International Conference on Advances in Control and Optimization of Dynamical Systems (ACODS)	10.1016/j.ifaco1.2022.04.113	Not using eligible AI techniques or mechanistic epidemiological models
Predictive Model of Lyme Disease Epidemic Process Using Machine Learning Approach	Chumachenko, D. (2022)	Applied Sciences-Basel	10.3390/app12094282	Not using eligible AI techniques or mechanistic epidemiological models
Prevention and Control of Emerging Infectious Diseases in Human Populations	Khaddaj, S. (2020)	19th International Symposium on Distributed Computing and Applications for Business Engineering and Science (DCABES)	10.1109/dcabes50732.2020.00092	Framework only
Prospective Detection of Foodborne Illness Outbreaks Using Machine Learning Approaches	Teyhouee, A. (2017)	10th International Conference on Social, Cultural, and Behavioral Modeling and Prediction and Behavior Representation in Modeling and Simulation (SBP-BRiMS)	10.1007/978-3-319-60240-0_36	No integration of AI techniques and mechanistic epidemiological models
Quantum advantage for differential equation analysis	Kiani, B. T. (2022)	Physical Review A	10.1103/PhysRevA.105.022415	Not using eligible AI techniques or mechanistic epidemiological models
A radial basis deep neural network process using the Bayesian regularization optimization for the monkeypox transmission model	Akkilic, A. N. (2024)	Expert Systems with Applications	10.1016/j.eswa.2023.121257	No integration of AI techniques and mechanistic epidemiological models
A random forest model for forecasting regional COVID-19 cases utilizing reproduction number estimates and demographic data	Galasso, J. (2022)	Chaos Solitons & Fractals	10.1016/j.chaos.2021.111779	Not using eligible AI techniques or mechanistic epidemiological models

A Recurrent Neural Network and Differential Equation based Spatiotemporal Infectious Disease Model with Application to COVID-19	Li, Z. J. (2020)	12th International Joint Conference on Knowledge Discovery, Knowledge Engineering and Knowledge Management (IC3K) / 12th International Conference on Knowledge Discovery and Information Retrieval (KDIR)	10.5220/0010130000930103	Duplicates
Recursive Stacked LeakyNet-Based Compartmental Model for Analysis of COVID-19 Transmission Dynamics	Raychaudhuri, S. J. (2023)	Journal of Information & Knowledge Management	10.1142/s021964922350020x	No integration of AI techniques and mechanistic epidemiological models
The Research of SEIJR Model With Time-Delay Based on 2019-nCov	Sun, S. Y. (2021)	IEEE Access	10.1109/access.2021.3107521	No integration of AI techniques and mechanistic epidemiological models
Research on Disease Prediction Based on Improved DeepFM and IoMT	Yu, Z. C. (2021)	IEEE Access	10.1109/access.2021.3062687	Not using eligible AI techniques or mechanistic epidemiological models
A scale conjugate neural network learning process for the nonlinear malaria disease model	Alqhtani, M. (2023)	Aims Mathematics	10.3934/math.20231075	No integration of AI techniques and mechanistic epidemiological models
Scaled Conjugate Gradient for the Numerical Simulations of the Mathematical Model-Based Monkeypox Transmission	Suantai, S. (2023)	Fractal and Fractional	10.3390/fractalfract7010063	No integration of AI techniques and mechanistic epidemiological models
Sensitivity Analysis of Optimal Commodity Decision Making with Neural Networks: A Case for COVID-19	Karimi, N. (2023)	Mathematics	10.3390/math11051202	Not studying infectious disease epidemiological modeling
Short- and long-term predictions of novel corona virus using mathematical modeling and artificial intelligence methods	Alkhammash, H. I. (2021)	International Journal of Modeling Simulation and Scientific Computing	10.1142/s1793962321500288	No integration of AI techniques and mechanistic epidemiological models
Smart monitoring and controlling of Pandemic Influenza A (H1N1) using Social Network Analysis and cloud computing	Sandhu, R. (2016)	Journal of Computational Science	10.1016/j.jocs.2015.11.001	Not using eligible AI techniques or mechanistic epidemiological models
Smart Testing with Vaccination: A Bandit Algorithm for Active	Wang, Y. F. (2023)	Information Systems Research	10.1287/isre.2023.1215	No integration of AI techniques and mechanistic epidemiological models

Sampling for Managing COVID-19				
Soft Computing of a Medically Important Arthropod Vector with Autoregressive Recurrent and Focused Time Delay Artificial Neural Networks	Damos, P. (2021)	Insects	10.3390/insects12060503	Not using eligible AI techniques or mechanistic epidemiological models
Soft Computing Paradigms to Find the Numerical Solutions of a Nonlinear Influenza Disease Model	Sabir, Z. (2021)	Applied Sciences-Basel	10.3390/app11188549	No integration of AI techniques and mechanistic epidemiological models
#stayhome to contain Covid-19: Neuro-SIR - Neurodynamical epidemic modeling of infection patterns in social networks	Lymperopoulos, I. N. (2021)	Expert Systems with Applications	10.1016/j.eswa.2020.113970	Not using eligible AI techniques or mechanistic epidemiological models
Stochastic Investigations for the Fractional Vector-Host Diseased Based Saturated Function of Treatment Model	Botmart, T. (2023)	Cmc-Computers Materials & Continua	10.32604/cmc.2023.031871	No integration of AI techniques and mechanistic epidemiological models
A Stochastic Model of an Early Warning System for Detecting Anomalous Incidence Values of COVID-19	Duarte, A. F. (2023)	Mathematical Geosciences	10.1007/s11004-023-10096-4	Not using eligible AI techniques or mechanistic epidemiological models
Study of impact of COVID-19 on different age groups using machine learning classifiers	Patil, H. (2021)	Journal of Interdisciplinary Mathematics	10.1080/09720502.2021.1896585	Not using eligible AI techniques or mechanistic epidemiological models
Study on Prediction Model of HIV Incidence Based on GRU Neural Network Optimized by MHPSO	Li, X. M. (2020)	IEEE Access	10.1109/access.2020.2979859	Not using eligible AI techniques or mechanistic epidemiological models
Supervised forecasting of the range expansion of novel non-indigenous organisms: Alien pest organisms and the 2009 H1N1 flu pandemic	Koike, F. (2018)	Global Ecology and Biogeography	10.1111/geb.12754	Not using eligible AI techniques or mechanistic epidemiological models
Surrogate Assisted Methods for the Parameterisation of Agent-Based Models	Perumal, R. (2020)	7th International Conference on Soft Computing and Machine Intelligence (ISCMI)	10.1109/iscmi51676.2020.9311568	Duplicates
Surrogate Parameters Optimization for Data and Model Fusion of COVID-19 Time-series Data	Timilehin, O. (2021)	24th IEEE International Conference on Information Fusion (FUSION)		No integration of AI techniques and mechanistic epidemiological models

A swarming neural network computing approach to solve the Zika virus model	Sabir, Z. (2023)	Engineering Applications of Artificial Intelligence	10.1016/j.engappai.2023.106924	No integration of AI techniques and mechanistic epidemiological models
Three Mathematical Models for COVID-19 Prediction	Martínez-Fernández, P. (2023)	Mathematics	10.3390/math11030506	Not using eligible AI techniques or mechanistic epidemiological models
Towards Differentiable Agent-Based Simulation	Andelfinger, P. (2022)	Acm Transactions on Modeling and Computer Simulation	10.1145/3565810	Duplicates
A two-group epidemiological model: Stability analysis and numerical simulation using neural networks	El Yamani, M. A. (2022)	International Journal of Modeling Simulation and Scientific Computing	10.1142/s1793962323500290	Full text not available
Two-Strain COVID-19 Model Using Delayed Dynamic System and Big Data	Martsenyuk, V. (2021)	IEEE Access	10.1109/access.2021.3104519	Not using eligible AI techniques or mechanistic epidemiological models
Understanding the Effects of Human Factors on the Spread of COVID-19 Using a Neural Network	Chhabra, A. (2020)	7th International Conference on Soft Computing and Machine Intelligence (ISCMI)	10.1109/iscmi51676.2020.9311591	Not using eligible AI techniques or mechanistic epidemiological models
Validation of epidemiological models: Chicken epidemiology in the UK	Fradkin, D. (2004)	DIMACS Workshop on Data Mining and Epidemiology		Not using eligible AI techniques or mechanistic epidemiological models
ABV-CoViD: An Ensemble Forecasting Model to Predict Availability of Beds and Ventilators for COVID-19 Like Pandemics	Prasad, V. K. (2022)	IEEE Access	10.1109/access.2022.3190497	Not using eligible AI techniques or mechanistic epidemiological models
Accelerating towards P. vivax elimination with a novel serological test-and-treat strategy: a modelling case study in Brazil	Nekkab, N. (2023)	Lancet Regional Health - Americas	10.1016/j.lana.2023.100511	Not using eligible AI techniques or mechanistic epidemiological models
Adaptive-compartmental model of coronavirus epidemic and its optimization by the methods of artificial intelligence	Levashkin, S. P. (2021)	Journal of Physics: Conference Series	10.1088/1742-6596/1864/1/012108	Not using eligible AI techniques or mechanistic epidemiological models
An adjusted likelihood ratio approach analysing distribution of food products to assist the investigation of foodborne outbreaks	Norström, M. (2015)	PLoS One	10.1371/journal.pone.0134344	Not using eligible AI techniques or mechanistic epidemiological models

Adjustment of an Epidemiological Cellular Automata-based Model using Genetic Algorithm	Fraga, L. M. (2020)	Proceedings - International Conference on Tools with Artificial Intelligence, ICTAI	10.1109/ictai50040.2020.00096	Not using eligible AI techniques or mechanistic epidemiological models
Administration of defective virus inhibits dengue transmission into mosquitoes	Mapder, T. (2020)	Viruses	10.3390/v12050558	Not using eligible AI techniques or mechanistic epidemiological models
Agent-based mathematical model of COVID-19 spread in Novosibirsk region: Identifiability, optimization and forecasting	Krivorotko, O. (2023)	Journal of Inverse and Ill-Posed Problems	10.1515/jiip-2021-0038	Not using eligible AI techniques or mechanistic epidemiological models
Agent-based model with visualization tool to study boundless connectivity threshold	Paizen, B. (2014)	Proceedings - 2014 International Conference on Computational Science and Computational Intelligence, CSCI 2014	10.1109/csci.2014.146	Not reporting original research
Agent-model based on flame GPU for assessing pupal productivity of the transmitting vector of Aedes aegypti infectious diseases	De Oca, E. M. (2019)	18th International Conference on Modeling and Applied Simulation, MAS 2019		Not using eligible AI techniques or mechanistic epidemiological models
AI & Multi-agent Systems for Data-centric Epidemic Forecasting	Rodríguez, A. (2023)	Proceedings of the International Joint Conference on Autonomous Agents and Multiagent Systems, AAMAS		Not reporting original research
AI Techniques and Mathematical Modeling to Detect Coronavirus	Ahmed, K. (2021)	Journal of The Institution of Engineers (India): Series B	10.1007/s40031-020-00514-0	Not reporting original research
An algebraic formula, deep learning and a novel SEIR-type model for the COVID-19 pandemic	Fokas, A. S. (2023)	Royal Society Open Science	10.1098/rsos.230858	No integration of AI techniques and mechanistic epidemiological models
ANALYSIS AND FORECASTING OF BURULI ULCER DISEASE WITH ARIMA AND NARNN, A DIDACTIC TOOL APPROACH	Rotariu, M. (2021)	eLearning and Software for Education Conference	10.12753/2066-026x-21-178	No integration of AI techniques and mechanistic epidemiological models

Analysis of M-SEIR and LSTM models for the prediction of COVID-19 using RMSLE	Archith, S. (2022)	Fundamentals and Methods of Machine and Deep Learning: Algorithms, Tools, and Applications	10.1002/9781119821908.ch4	Not published in peer-reviewed journals or proceedings of conferences, workshops, or symposiums
Analysis of non-linear RIM system and neural computing of ringworm spread using the Levenberg–Marquardt back propagated scheme: Supervised learning	Alsubaie, N. (2023)	Partial Differential Equations in Applied Mathematics	10.1016/j.padiff.2023.100544	No integration of AI techniques and mechanistic epidemiological models
An Analysis of the Italian Lockdown in Retrospective Using Particle Swarm Optimization in Machine Learning Applied to an Epidemiological Model	Paggi, M. (2020)	Physics (Switzerland)	10.3390/physics2030020	Not using eligible AI techniques or mechanistic epidemiological models
An artificial intelligence-based decision support and resource management system for COVID-19 pandemic	Karaarslan, E. (2021)	Data Science for COVID-19 Volume 1: Computational Perspectives	10.1016/b978-0-12-824536-1.00029-0	Not published in peer-reviewed journals or proceedings of conferences, workshops, or symposiums
ASSESSING THE IMPACT OF THE RUSSIAN WAR IN UKRAINE ON COVID-19 TRANSMISSION IN SPAIN: A MACHINE LEARNING-BASED STUDY	Chumachenko, D. (2023)	Radioelectronic and Computer Systems	10.32620/reks.2023.1.01	Not using eligible AI techniques or mechanistic epidemiological models
Assessing the multi-pathway threat from an invasive agricultural pest: Tuta absoluta in Asia	McNitt, J. (2019)	Proceedings of the Royal Society B: Biological Sciences	10.1098/rsif.2019.1159	Not studying infectious disease epidemiological modeling
Augmenting Epidemic Models with Graph Neural Networks	Hwang, W. (2023)	Performance Evaluation Review	10.1145/3595244.3595249	Not published in peer-reviewed journals or proceedings of conferences, workshops, or symposiums
BARRIERS OF COVID-19 VACCINATION IN UKRAINE DURING THE WAR: THE SIMULATION STUDY USING ARIMA MODEL	Chumachenko, D. (2022)	Radioelectronic and Computer Systems	10.32620/reks.2022.3.02	Not using eligible AI techniques or mechanistic epidemiological models
Bayesian networks for spatial learning: a workflow on using limited survey data for intelligent learning in spatial agent-based models	Abdulkareem, S. A. (2019)	Geoinformatica	10.1007/s10707-019-00347-0	Not using eligible AI techniques or mechanistic epidemiological models
Binary Ebola Optimization Search Algorithm for Feature	Akinola, O. (2022)	Applied Sciences (Switzerland)	10.3390/app122211787	Not studying infectious disease epidemiological modeling

Selection and Classification Problems				
Bridging Physics-based and Data-driven modeling for Learning Dynamical Systems	Wang, R. (2021)	Proceedings of Machine Learning Research		Not using eligible AI techniques or mechanistic epidemiological models
Calibrating deterministic compartmental models of infection dynamics using neural network and data sampling approaches	Pasala, K. C. (2022)	Proceedings - 2022 Ural-Siberian Conference on Computational Technologies in Cognitive Science, Genomics and Biomedicine, CSGB 2022	10.1109/csgb56354.2022.9865428	Framework only
Comparative Study on Predictive Mathematical Models for Risk Assessment of nCOVID-19 Pandemic in India	Biswas, S. (2021)	Lecture Notes in Bioengineering	10.1007/978-981-33-6915-3_39	Not using eligible AI techniques or mechanistic epidemiological models
Conditional Neural ODE Processes for Individual Disease Progression Forecasting: A Case Study on COVID-19	Dang, T. (2023)	Proceedings of the ACM SIGKDD International Conference on Knowledge Discovery and Data Mining	10.1145/3580305.3599792	Not studying infectious disease epidemiological modeling
Coupling Machine Learning and Agent-Based Modeling to Characterize Contamination Sources in Water Distribution Systems for Changing Demand Regimes	Berglund, E. (2023)	World Environmental and Water Resources Congress 2023: Adaptive Planning and Design in an Age of Risk and Uncertainty - Selected Papers from World Environmental and Water Resources Congress 2023	10.1061/9780784484852.082	No integration of AI techniques and mechanistic epidemiological models
COVID-19 Cases Prediction Based on LSTM and SIR Model Using Social Media	Gupta, A. (2022)	Lecture Notes in Electrical Engineering	10.1007/978-981-19-4453-6_7	Duplicates
COVID-19 Outbreak Prediction in Indonesia Based on Machine Learning and SIRD-BasedHybrid Methods	Putri, E. R. M. (2021)	Nonlinear Dynamics and Systems Theory		No integration of AI techniques and mechanistic epidemiological models
COVID-19 Propagation Prediction Model Based on Machine Learning	Liu, Y. (2021)	Journal of Physics: Conference Series	10.1088/1742-6596/1955/1/012094	Not using eligible AI techniques or mechanistic epidemiological models

Covid-19: Predictive mathematical formulae for the number of deaths during lockdown and possible scenarios for the post-lockdown period	Fokas, A. S. (2021)	Proceedings of the Royal Society A: Mathematical, Physical and Engineering Sciences	10.1098/rspa.2020.0745	Not using eligible AI techniques or mechanistic epidemiological models
COVID-EENet: Predicting Fine-Grained Impact of COVID-19 on Local Economies	Kim, D. (2022)	Proceedings of the 36th AAAI Conference on Artificial Intelligence, AAAI 2022		Not using eligible AI techniques or mechanistic epidemiological models
Data Science Models for Short-Term Forecast of COVID-19 Spread in Nigeria	Acheme, I. D. (2022)	International Series in Operations Research and Management Science	10.1007/978-3-030-87019-5_20	Not published in peer-reviewed journals or proceedings of conferences, workshops, or symposiums
Data-driven epidemic intelligence strategies based on digital proximity tracing technologies in the fight against covid-19 in cities	Esposito, D. (2021)	Sustainability (Switzerland)	10.3390/su13020644	Not using eligible AI techniques or mechanistic epidemiological models
Decision support based on Bio-PEPA modeling and decision tree induction: A new approach, applied to a tuberculosis case study	Hamami, D. (2017)	International Journal of Information Systems in the Service Sector	10.4018/ijisss.2017040104	No integration of AI techniques and mechanistic epidemiological models
Deep Learning-Based COVID-19 Diagnosis and Trend Predictions	Xie, J. (2020)	SpringerBriefs in Applied Sciences and Technology	10.1007/978-981-15-6572-4_7	Not published in peer-reviewed journals or proceedings of conferences, workshops, or symposiums
Deep Reinforcement Learning for Large-Scale Epidemic Control	Libin, P. J. K. (2021)	Lecture Notes in Computer Science (including subseries Lecture Notes in Artificial Intelligence and Lecture Notes in Bioinformatics)	10.1007/978-3-030-67670-4_10	Duplicates
Deep Reinforcement Learning Interdependent Healthcare Critical Infrastructure Simulation model for Dynamically Varying COVID-19 scenario – A case study of a Metro City	Srikanth, G. (2021)	International Geoscience and Remote Sensing Symposium (IGARSS)	10.1109/igarss47720.2021.9554875	Not using eligible AI techniques or mechanistic epidemiological models
DeepABM: Scalable and Efficient Agent-Based Simulations Via Geometric Learning Frameworks-a Case Study for Covid-19 Spread and Interventions	Chopra, A. (2021)	Proceedings - Winter Simulation Conference	10.1109/wsc52266.2021.9715507	Not using eligible AI techniques or mechanistic epidemiological models

Detecting Sources of Healthcare Associated Infections	Jang, H. (2023)	Proceedings of the 37th AAAI Conference on Artificial Intelligence, AAAI 2023		Not using eligible AI techniques or mechanistic epidemiological models
Differentiable Agent-Based Simulation for Gradient-Guided Simulation-Based Optimization	Andelfinger, P. (2021)	SIGSIM-PADS 2021 - Proceedings of the 2021 ACM SIGSIM Conference on Principles of Advanced Discrete Simulation	10.1145/3437959.3459261	Not using eligible AI techniques or mechanistic epidemiological models
Discrete-Time Neural Identification of a SIR Epidemic Model	Covarrubias, R. (2019)	2018 IEEE Latin American Conference on Computational Intelligence, LA-CCI 2018	10.1109/la-cci.2018.8625250	No integration of AI techniques and mechanistic epidemiological models
The early warning model of HFMD which is implemented by the multivariable deep learning neural network	Lai, Y. (2023)	ITNEC 2023 - IEEE 6th Information Technology, Networking, Electronic and Automation Control Conference	10.1109/itnec56291.2023.10082278	Not using eligible AI techniques or mechanistic epidemiological models
Echo state networks simulation of sir distributed control	Kmet, T. (2017)	Lecture Notes in Computer Science (including subseries Lecture Notes in Artificial Intelligence and Lecture Notes in Bioinformatics)	10.1007/978-3-319-59063-9_8	Duplicates
AN EDUCATIONAL APPROACH FOR MATHEMATICAL MODELS OF COVID-19 PROPAGATION: ODE AND NEURAL NETWOKS	Turnea, M. (2021)	eLearning and Software for Education Conference	10.12753/2066-026x-21-179	No integration of AI techniques and mechanistic epidemiological models

An epidemic graph's modeling application to the COVID-19 outbreak	Bhuyan, H. K. (2022)	Big Data Analytics and Machine Intelligence in Biomedical and Health Informatics: Concepts, Methodologies, Tools and Applications	10.1002/9781119792376.ch9	Not published in peer-reviewed journals or proceedings of conferences, workshops, or symposiums
The epidemic of innovation - playing around with an agent-based model	Terna, P. (2009)	Economics of Innovation and New Technology	10.1080/10438590802564808	Not studying infectious disease epidemiological modeling
Erratum: Real-time forecasting of the covid-19 outbreak in chinese provinces: Machine learning approach using novel digital data and estimates from mechanistic models (Journal of Medical Internet Research (2020) 22:8 (e20285) DOI: 10.2196/20285)	Liu, D. (2020)	Journal of Medical Internet Research	10.2196/23996	Not reporting original research
Estimating SVCV waterborne transmission and predicting experimental epidemic development: A modeling study using a machine learning approach	Pan, J. (2023)	Water Biology and Security	10.1016/j.watbs.2023.100212	Not using eligible AI techniques or mechanistic epidemiological models
Estimation of covid-19 epidemiology curve of the united states using genetic programming algorithm	Anđelić, N. (2021)	International Journal of Environmental Research and Public Health	10.3390/ijerph18030959	Not using eligible AI techniques or mechanistic epidemiological models
Estimation of parameters based on artificial neural networks and threshold of HIV/AIDS epidemic system in Cuba	Atencia, M. (2013)	Mathematical and Computer Modelling	10.1016/j.mcm.2013.03.007	Not using eligible AI techniques or mechanistic epidemiological models
Estimation of the importance of predictor variables in machine learning epidemiological models using SHAP	Scavuzzo, J. M. (2020)	2020 IEEE Congreso Bienal de Argentina, ARGENCON 2020 - 2020 IEEE Biennial Congress of Argentina, ARGENCON 2020	10.1109/argencon49523.2020.9505575	English translation not available
Estimation of the Migration Impact on COVID-19 Dynamics in Slovakia by Machine Learning: Simulation Study during Russian War in Ukraine	Chumachenko, D. (2022)	2022 IEEE 9th International Conference on Problems of Infocommunications Science and Technology, PIC S	10.1109/picst57299.2022.10238479	Not using eligible AI techniques or mechanistic epidemiological models

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Estimation of the rate of detection of infected individuals in an epidemiological model	Atencia, M. (2007)	Lecture Notes in Computer Science (including subseries Lecture Notes in Artificial Intelligence and Lecture Notes in Bioinformatics)	10.1007/978-3-540-73007-1_114	Not using eligible AI techniques or mechanistic epidemiological models
Evaluating the dynamics of bluetooth low energy based covid-19 risk estimation for educational institutes	Aljohani, A. J. (2021)	Sensors	10.3390/s21196667	Not studying infectious disease epidemiological modeling
Fitting and validation of an agent-based model for COVID-19 case forecasting in workplaces and universities	Kumaresan, V. (2023)	PLoS One	10.1371/journal.pone.0283517	Not using eligible AI techniques or mechanistic epidemiological models
Forecasting COVID-19 cases in Saudi Arabia using machine learning SEIR and LSTM	Kola, S. (2020)	Journal of Green Engineering		No integration of AI techniques and mechanistic epidemiological models
Forecasting of COVID-19 Epidemic Process in Ukraine and Neighboring Countries by Gradient Boosting Method	Chumachenko, D. (2023)	Lecture Notes on Data Engineering and Communications Technologies	10.1007/978-3-031-35467-0_30	Not using eligible AI techniques or mechanistic epidemiological models
Fourth wave Covid19 analyzing using mathematical seirs epidemic model & deep neural network	Shukla, S. S. P. (2023)	Multimedia Tools and Applications	10.1007/s11042-023-16609-x	No integration of AI techniques and mechanistic epidemiological models
A fractional order numerical study for the influenza disease mathematical model	Sabir, Z. (2023)	Alexandria Engineering Journal	10.1016/j.aej.2022.09.034	No integration of AI techniques and mechanistic epidemiological models
The Framework of Estimation of the Impact of the Russian War on the Infectious Diseases Spreading	Chumachenko, D. (2023)	CEUR Workshop Proceedings		Not using eligible AI techniques or mechanistic epidemiological models
Gaussian Process Nowcasting: Application to COVID-19 Mortality Reporting	Hawryluk, I. (2021)	Proceedings of Machine Learning Research		Not using eligible AI techniques or mechanistic epidemiological models
Harnessing Machine Learning and Multi Agent Systems for Health Crisis Analysis in North Africa	Ettazi, H. (2023)	E3S Web of Conferences	10.1051/e3sconf/202341201088	No integration of AI techniques and mechanistic epidemiological models
HierST: A Unified Hierarchical Spatialoral Framework for COVID-19 Trend Forecasting	Zheng, S. (2021)	International Conference on Information and Knowledge Management, Proceedings	10.1145/3459637.3481927	Not using eligible AI techniques or mechanistic epidemiological models

Holt's linear model of COVID-19 morbidity forecasting in Ukraine	Kapusta, D. (2021)	CEUR Workshop Proceedings		Not using eligible AI techniques or mechanistic epidemiological models
Identification of noisy dynamical systems with parameter estimation based on Hopfield neural networks	Atencia, M. (2013)	Neurocomputing	10.1016/j.neucom.2013.01.030	Not using eligible AI techniques or mechanistic epidemiological models
Identifying Country-Level Risk Factors for the Spread of COVID-19 in Europe Using Machine Learning	Moustakidis, S. (2022)	Viruses	10.3390/v14030625	Not using eligible AI techniques or mechanistic epidemiological models
IMPACT OF WAR ON COVID-19 PANDEMIC IN UKRAINE: THE SIMULATION STUDY	Chumachenko, D. (2022)	Radioelectronic and Computer Systems	10.32620/reks.2022.2.01	Not using eligible AI techniques or mechanistic epidemiological models
Impact studies of nationwide measures Covid-19 anti-pandemic: Compartmental model and machine learning	Baldé, M. A. M. T. (2020)	Communications in Mathematical Biology and Neuroscience	10.28919/cmbn/4911	No integration of AI techniques and mechanistic epidemiological models
Implementation of Hybrid Prediction Model: An Unsupervised and Supervised Learning Perspective	Baig, M. G. (2023)	International Journal on Recent and Innovation Trends in Computing and Communication	10.17762/ijritcc.v11i5s.6652	Framework only
Implementing machine learning using the neural network for the time delay sir epidemic model for future forecasting	Iqbal, S. A. (2023)	Applied Intelligence for Industry 4.0		Not published in peer-reviewed journals or proceedings of conferences, workshops, or symposiums
Improved forecast with a combination of mechanistic and statistical predictive models	Bobashev, G. V. (2009)	AAAI Spring Symposium - Technical Report		No integration of AI techniques and mechanistic epidemiological models
Improving Effectiveness of Simulation-Based Inference in the Massively Parallel Regime	Kulkarni, S. (2023)	Ieee Transactions on Parallel and Distributed Systems	10.1109/tpds.2023.3238045	Not using eligible AI techniques or mechanistic epidemiological models
Infection hot spot mining from social media trajectories	Souza, R. C. S. N. P. (2016)	Lecture Notes in Computer Science (including subseries Lecture Notes in Artificial Intelligence and Lecture Notes in Bioinformatics)	10.1007/978-3-319-46227-1_46	Not using eligible AI techniques or mechanistic epidemiological models
Infectious Diseases Dynamic Transmissibility with Age Structure and Medical Resources	Mei, W. (2021)	Proceeding - 2021 China Automation Congress, CAC 2021	10.1109/cac53003.2021.9727359	Not using eligible AI techniques or mechanistic epidemiological models

Input-output fuzzy identification of nonlinear multivariable systems. Application to a case of AIDS spread forecast	Ruiz-Gomez, J. (2003)	Lecture Notes in Computer Science (including subseries Lecture Notes in Artificial Intelligence and Lecture Notes in Bioinformatics)	10.1007/3-540-44869-1_61	Not using eligible AI techniques or mechanistic epidemiological models
An integrated modeling environment to study the coevolution of networks, individual behavior, and epidemics	Barrett, C. (2010)	Ai Magazine	10.1609/aimag.v31i1.2283	Not published in peer-reviewed journals or proceedings of conferences, workshops, or symposiums
An Intelligent ABM-based Framework for Developing Pandemic-Resilient Urban Spaces in Post-COVID Smart Cities	Prajapati, S. P. (2022)	Procedia Computer Science	10.1016/j.procs.2023.01.205	Framework only
Intelligent epidemiological surveillance in the Brazilian semiarid	Valter, R. (2021)	2020 IEEE International Conference on E-Health Networking, Application and Services, HEALTHCOM 2020	10.1109/healthcom49281.2021.9399018	Not using eligible AI techniques or mechanistic epidemiological models
Intelligent judgements over health risks in a spatial agent-based model	Abdulkareem, S. A. (2018)	International journal of health geographics	10.1186/s12942-018-0128-x	Not using eligible AI techniques or mechanistic epidemiological models
Interpretable sequence learning for COVID-19 forecasting	Arik, S. Ö (2020)	Advances in Neural Information Processing Systems		Duplicates
Investigating the effects of various control measures on economy and spread of COVID-19 in Turkey: a system dynamics approach	Alım, M. (2023)	Simulation	10.1177/00375497221116641	Not using eligible AI techniques or mechanistic epidemiological models
An investigation of safe and near-optimal strategies for prevention of Covid-19 exposure using stochastic hybrid models and machine learning	Bilgram, A. (2022)	Decision Analytics Journal	10.1016/j.dajour.2022.100141	Not using eligible AI techniques or mechanistic epidemiological models
Investigation of the Dynamics of the Formation of Collective Immunity in a Pandemic Using Multi-agent Modeling and Selective Neural Network	Mazurov, M. (2022)	Lecture Notes on Data Engineering and Communications Technologies	10.1007/978-3-030-92537-6_5	Not using eligible AI techniques or mechanistic epidemiological models

Learning COVID-19 Mitigation Strategies Using Reinforcement Learning	Denis, N. (2022)	Fields Institute Communications	10.1007/978-3-030-85053-1_12	Not published in peer-reviewed journals or proceedings of conferences, workshops, or symposiums
Learning from simulated world-surrogates construction with deep neural network	Jian, Z. D. (2017)	SIMULTECH 2017 - Proceedings of the 7th International Conference on Simulation and Modeling Methodologies, Technologies and Applications	10.5220/0006418100830092	Duplicates
Local Justice and Machine Learning: Modeling and Inferring Dynamic Ethical Preferences toward Allocations	Chen, V. (2023)	Proceedings of the 37th AAAI Conference on Artificial Intelligence, AAAI 2023		Not using eligible AI techniques or mechanistic epidemiological models
Local neural networks of space-time predicting modeling for lattice data in GIS	Wang, H. (2006)	Lecture Notes in Computer Science (including subseries Lecture Notes in Artificial Intelligence and Lecture Notes in Bioinformatics)	10.1007/11760191_174	Not using eligible AI techniques or mechanistic epidemiological models
Machine learning analysis and agent-based modelling of malaria transmission	Modu, B. (2018)	Frontiers in Artificial Intelligence and Applications	10.3233/978-1-61499-927-0-465	No integration of AI techniques and mechanistic epidemiological models
Machine learning approach to COVID-19 epidemic process simulation using polynomial regression model	Kapusta, D. (2021)	CEUR Workshop Proceedings		Not using eligible AI techniques or mechanistic epidemiological models
Machine Learning Approach to SIR Mathematical Model	Kalaiyarasi, A. (2023)	2023 International Conference on Fractional Differentiation and Its Applications, ICFDA 2023	10.1109/icfda58234.2023.10153234	No integration of AI techniques and mechanistic epidemiological models
Machine learning model of covid-19 forecasting in Ukraine based on the linear regression	Mohammadi, A. (2021)	2021 IEEE 12th International Conference on Electronics and Information Technologies, ELIT 2021 - Proceedings	10.1109/elit53502.2021.9501122	Not using eligible AI techniques or mechanistic epidemiological models

Managing uncertainty in early estimation of epidemic behaviors using scenario trees	Gailis, R. (2014)	IIE Transactions (Institute of Industrial Engineers)	10.1080/0740817x.2013.803641	No integration of AI techniques and mechanistic epidemiological models
Mathematical modeling and AI based decision making for COVID-19 suspects backed by novel distance and similarity measures on plithogenic hypersoft sets	Ahmad, M. R. (2022)	Artificial Intelligence in Medicine	10.1016/j.artmed.2022.102390	Not studying infectious disease epidemiological modeling
Mathematical Modeling of COVID-19 Spread Using Genetic Programming Algorithm	Benolić, L. (2023)	Lecture Notes in Networks and Systems	10.1007/978-3-031-29717-5_19	Not using eligible AI techniques or mechanistic epidemiological models
Mathematical models and deep learning for predicting the number of individuals reported to be infected with SARS-CoV-2	Fokas, A. S. (2020)	Journal of the Royal Society Interface	10.1098/rsif.2020.0494	No integration of AI techniques and mechanistic epidemiological models
Mitigation strategies for foot and mouth disease: A learning-based approach	Chowdhury, S. R. (2013)	Investigations into Living Systems, Artificial Life, and Real-World Solutions	10.4018/978-1-4666-3890-7.ch016	Not published in peer-reviewed journals or proceedings of conferences, workshops, or symposiums
Model identification for prediction of dengue fever disease spreading using Bat Algorithm and backpropagation	Damayanti, A. (2020)	Journal of Physics: Conference Series	10.1088/1742-6596/1494/1/012002	No integration of AI techniques and mechanistic epidemiological models
Modeling and prediction of COVID-19 using hybrid dynamic model based on SEIRD with ARIMA corrections	Yaroslav, L. (2021)	CEUR Workshop Proceedings		Not using eligible AI techniques or mechanistic epidemiological models
Modeling Effect of Lockdowns and Other Effects on India Covid-19 Infections Using SEIR Model and Machine Learning	Sampath, S. (2022)	Lecture Notes in Networks and Systems	10.1007/978-3-030-96302-6_25	Not using eligible AI techniques or mechanistic epidemiological models
Modeling the risk for a new invasive forest disease in the United States: An evaluation of five environmental niche models	Kelly, M. (2007)	Computers, Environment and Urban Systems	10.1016/j.compenvurbsys.2006.10.002	Not using eligible AI techniques or mechanistic epidemiological models
Multilevel nonlinearity study design	Lamers, Maarten H. (1998)	IEEE International Conference on Neural Networks - Conference Proceedings		Not studying infectious disease epidemiological modeling
Myriad: a real-world testbed to bridge trajectory optimization and deep learning	Howe, N. H. R. (2022)	Advances in Neural Information Processing Systems		Framework only

Negative criteria for the existence of periodic solutions in a class of delay-differential equations	Beretta, E. (2002)	Nonlinear Analysis, Theory, Methods and Applications	10.1016/s0362-546x(01)00794-5	Not using eligible AI techniques or mechanistic epidemiological models
Neural network for the estimation of leaf wetness duration: Application to a Plasmopara viticola infection forecasting	Dalla Marta, A. (2005)	Physics and Chemistry of the Earth	10.1016/j.pce.2004.08.016	Not using eligible AI techniques or mechanistic epidemiological models
Neural network models for influenza forecasting with associated uncertainty using Web search activity trends	Morris, M. (2023)	PLoS Computational Biology	10.1371/journal.pcbi.1011392	Not using eligible AI techniques or mechanistic epidemiological models
A neuro Meyer wavelet neural network procedure for solving the nonlinear Leptospirosis model	Sabir, Z. (2023)	Intelligent Systems with Applications	10.1016/j.iswa.2023.200243	No integration of AI techniques and mechanistic epidemiological models
NON-LINEAR OPERATOR APPROXIMATIONS FOR INITIAL VALUE PROBLEMS	Gupta, G. (2022)	ICLR 2022 - 10th International Conference on Learning Representations		Not using eligible AI techniques or mechanistic epidemiological models
Nonlinear system identification model of the spread of TB disease using the genetic algorithm and multilayer perceptron	Damayanti, A. (2019)	Journal of Physics: Conference Series	10.1088/1742-6596/1306/1/012019	No integration of AI techniques and mechanistic epidemiological models
Nonparametric method for estimation of forecasting models using small samples	Klyushin, D. (2022)	CEUR Workshop Proceedings		Not using eligible AI techniques or mechanistic epidemiological models
A novel design of evolutionally computing to study the quarantine effects on transmission model of Ebola virus disease	Nisar, K. S. (2023)	Results in Physics	10.1016/j.rinp.2023.106408	No integration of AI techniques and mechanistic epidemiological models
A novel framework based on network embedding for the simulation and analysis of disease progression	Chiodo, F. (2022)	Proceedings - 2022 IEEE International Conference on Bioinformatics and Biomedicine, BIBM 2022	10.1109/bibm55620.2022.9995396	Framework only
A novel radial basis procedure for the SIRC epidemic delay differential model	Sabir, Z. (2023)	International Journal of Computer Mathematics	10.1080/00207160.2023.2248286	No integration of AI techniques and mechanistic epidemiological models
Numerical Assessments Employing Neural Networks for a Novel Drafted Anti-Virus Subcategory in a Nonlinear Fractional-Order SIR Differential System	Noinang, S. (2022)	IEEE Access	10.1109/access.2022.3217663	Not studying infectious disease epidemiological modeling

Numerical Computation of SEIR Model for the Zika Virus Spreading	Suantai, S. (2023)	Computers, Materials and Continua	10.32604/cmc.2023.034699	No integration of AI techniques and mechanistic epidemiological models
Numerical performances through artificial neural networks for solving the vector-borne disease with lifelong immunity	Nur Akkilic, A. (2022)	Computer Methods in Biomechanics and Biomedical Engineering	10.1080/10255842.2022.2145887	No integration of AI techniques and mechanistic epidemiological models
Numerical simulation of the novel coronavirus spreading	Medrek, M. (2021)	Expert Systems with Applications	10.1016/j.eswa.2020.114109	Not using eligible AI techniques or mechanistic epidemiological models
Numerical solutions of a novel designed prevention class in the HIV nonlinear model	Sabir, Z. (2021)	CMES - Computer Modeling in Engineering and Sciences	10.32604/cmes.2021.016611	Not studying infectious disease epidemiological modeling
A Numerical Study of the Dynamics of Vector-Born Viral Plant Disorders Using a Hybrid Artificial Neural Network Approach	Alhakami, H. (2022)	Entropy	10.3390/e24111511	No integration of AI techniques and mechanistic epidemiological models
Obtaining optimal Bio-PEPA model using association rules: Approach applied to tuberculosis case study	Hamami, D. (2016)	Lecture Notes in Business Information Processing	10.1007/978-3-319-47093-1_6	Not studying infectious disease epidemiological modeling
On using simulation and stochastic learning for Pattern Recognition when training data is unavailable: The case of disease outbreak	Calitoiu, D. (2010)	ICAART 2010 - 2nd International Conference on Agents and Artificial Intelligence, Proceedings		Not using eligible AI techniques or mechanistic epidemiological models
Optimized ANFIS-based control design using genetic algorithm to obtain the vaccination and isolation rates for the COVID-19	Abbasi, Z. (2021)	2021 29th Iranian Conference on Electrical Engineering, ICEE 2021	10.1109/icee52715.2021.9544298	Duplicates
Parameter selection for modeling of epidemic networks	Dubé, M. (2018)	2018 IEEE Conference on Computational Intelligence in Bioinformatics and Computational Biology, CIBCB 2018	10.1109/cibcb.2018.8404961	Not using eligible AI techniques or mechanistic epidemiological models
Pattern-based prediction of population outbreaks	Palma, G. R. (2023)	Ecological Informatics	10.1016/j.ecoinf.2023.102220	Not using eligible AI techniques or mechanistic epidemiological models

Performance evaluation of machine learning approaches for COVID-19 forecasting by infectious disease modeling	Khaloofi, H. (2021)	2021 International Conference of Women in Data Science at Taif University, WiDSTaif 2021	10.1109/widstaif52235.2021.9430192	No integration of AI techniques and mechanistic epidemiological models
Predicting COVID-19 Fourth Wave Incidence in India Using Machine Learning Algorithms and SEIR Model	Prakash, S. (2022)	9th IEEE Uttar Pradesh Section International Conference on Electrical, Electronics and Computer Engineering, UPCON 2022	10.1109/upcon56432.2022.9986487	No integration of AI techniques and mechanistic epidemiological models
Predicting Infections in the Covid-19 Pandemic—Lessons Learned	Zehtabian, S. (2023)	Studies in Computational Intelligence	10.1007/978-3-031-14771-5_20	Not published in peer-reviewed journals or proceedings of conferences, workshops, or symposiums
Prediction model of urban epidemic prevention and control based on multivariate Bi-A-LSTM	Yuan, C. (2022)	Proceedings - 2022 5th International Conference on Advanced Electronic Materials, Computers and Software Engineering, AEMCSE 2022	10.1109/aemcse55572.2022.00047	Not using eligible AI techniques or mechanistic epidemiological models
Prediction models of COVID-19 based on SEIR and LSTM RNN	Kang, Y. (2021)	AIP Conference Proceedings	10.1063/5.0048409	No integration of AI techniques and mechanistic epidemiological models
Prediction of COVID-19 Pandemic Spread Using Graph Neural Networks	Gopalapillai, R. (2023)	Lecture Notes in Networks and Systems	10.1007/978-981-19-9379-4_5	Not using eligible AI techniques or mechanistic epidemiological models
Prediction of COVID-19 Severity Level Using XGBoost Algorithm: A Machine Learning Approach Based on SIR Epidemiological Model	Tahsin, L. (2022)	Smart Innovation, Systems and Technologies	10.1007/978-981-19-0011-2_7	No integration of AI techniques and mechanistic epidemiological models
Prediction of COVID-19 spread via LSTM and the deterministic SEIR model	Yang, Y. (2020)	Chinese Control Conference, CCC	10.23919/ccc50068.2020.9189012	No integration of AI techniques and mechanistic epidemiological models
Prediction of Female Fertility Structure and Population Change in China by Modified SIR Model	Zhang, Q. (2022)	Communications in Computer and Information Science	10.1007/978-981-19-7532-5_4	No integration of AI techniques and mechanistic epidemiological models

Prediction of infection disease by identifying critical nodes in temporal network using vector embedding	Awni, F. T. A. D. (2023)	AIP Conference Proceedings	10.1063/5.0112406	No integration of AI techniques and mechanistic epidemiological models
Prediction of the COVID-19 epidemic trends based on SEIR and AI models	Feng, S. (2021)	PLoS One	10.1371/journal.pone.0245101	No integration of AI techniques and mechanistic epidemiological models
Predictive analysis of COVID 19 disease based on mathematical modelling and machine learning techniques	Perepi, R. (2023)	Computer Methods in Biomechanics and Biomedical Engineering: Imaging and Visualization	10.1080/21681163.2022.2120829	Not using eligible AI techniques or mechanistic epidemiological models
PREDICTIVE MODEL OF COVID-19 EPIDEMIC PROCESS BASED ON NEURAL NETWORK	Krivtsov, S. (2022)	Radioelectronic and Computer Systems	10.32620/reks.2022.4.01	Not using eligible AI techniques or mechanistic epidemiological models
Predictive Modeling of the Spread of COVID-19: The Case of India	Sankaran, S. (2021)	Lecture Notes of the Institute for Computer Sciences, Social-Informatics and Telecommunications Engineering, LNICST	10.1007/978-3-030-79276-3_11	Not using eligible AI techniques or mechanistic epidemiological models
A Probabilistic State Space Model for Joint Inference from Differential Equations and Data	Schmidt, J. (2021)	Advances in Neural Information Processing Systems		Not using eligible AI techniques or mechanistic epidemiological models
Projection of COVID-19 Positive Cases Considering Hybrid Immunity: Case Study in Tokyo	Kodera, S. (2023)	Vaccines	10.3390/vaccines11030633	Not using eligible AI techniques or mechanistic epidemiological models
RANDOMIZED MACHINE LEARNING AND FORECASTING OF NONLINEAR DYNAMIC MODELS APPLIED TO SIR EPIDEMIOLOGICAL MODEL	Popkov, A. (2022)	Informatics and Automation	10.15622/ia.21.4.1	English translation not available
Real-time estimation of COVID-19 cases using machine learning and mathematical models-The case of India	Kumari, P. (2020)	2020 IEEE 15th International Conference on Industrial and Information Systems, ICIIS 2020 - Proceedings	10.1109/iciis51140.2020.9342735	Not using eligible AI techniques or mechanistic epidemiological models

Reconstruction of causal networks by set covering	Fyson, N. (2011)	Lecture Notes in Computer Science (including subseries Lecture Notes in Artificial Intelligence and Lecture Notes in Bioinformatics)	10.1007/978-3-642-20267-4_21	Not using eligible AI techniques or mechanistic epidemiological models
Regression and validation studies of the spread of novel COVID-19 in Iraq using mathematical and dynamic neural networks models: A case of the first six months of 2020	Khadom, A. A. (2021)	Caspian Journal of Environmental Sciences	10.22124/cjes.2021.4930	Not using eligible AI techniques or mechanistic epidemiological models
Research on the Forecast of the Spread of COVID-19	Guo, L. (2021)	ACM International Conference Proceeding Series	10.1145/3460238.3460246	Not using eligible AI techniques or mechanistic epidemiological models
Research on the Machine Learning Algorithms in the Prevention Model of New Coronary Pneumonia Epidemic Prevention and Control	Hong, Y. (2021)	Journal of Physics: Conference Series	10.1088/1742-6596/1952/2/022056	Not using eligible AI techniques or mechanistic epidemiological models
Resource planning strategies for healthcare systems during a pandemic	Fattahi, M. (2023)	European Journal of Operational Research	10.1016/j.ejor.2022.01.023	Not using eligible AI techniques or mechanistic epidemiological models
Scalable and Memory-Efficient Algorithms for Controlling Networked Epidemic Processes Using Multiplicative Weights Update Method	Sambaturu, P. (2022)	IJCAI International Joint Conference on Artificial Intelligence		Not using eligible AI techniques or mechanistic epidemiological models
Scrub typhus incidence modeling with meteorological factors in South Korea	Kwak, J. (2015)	International Journal of Environmental Research and Public Health	10.3390/ijerph120707254	Not using eligible AI techniques or mechanistic epidemiological models
Sequential Vaccine Allocation with Delayed Feedback	Xiao, Y. (2022)	IJCAI International Joint Conference on Artificial Intelligence		Not using eligible AI techniques or mechanistic epidemiological models
SimNest: Social media nested epidemic simulation via online semi-supervised deep learning	Zhao, L. (2016)	Proceedings - IEEE International Conference on Data Mining, ICDM	10.1109/icdm.2015.39	Duplicates
A simplified tempo-spatial model to predict airborne pathogen release risk in enclosed spaces: An Eulerian-Lagrangian CFD approach	Mirzaei, P. A. (2022)	Building and Environment	10.1016/j.buildenv.2021.108428	Not using eligible AI techniques or mechanistic epidemiological models

Simulate the number of confirmed COVID-19 Cases in 9 Countries from January to June 2020 based on 3 Models	Xiao, Z. (2020)	Proceedings of 2020 IEEE 3rd International Conference of Safe Production and Informatization, IICSPI 2020	10.1109/iicspi51290.2020.9332361	No integration of AI techniques and mechanistic epidemiological models
SIMULATION AND FORECASTING OF THE INFLUENZA EPIDEMIC PROCESS USING SEASONAL AUTOREGRESSIVE INTEGRATED MOVING AVERAGE MODEL	Chumachenko, D. (2021)	Radioelectronic and Computer Systems	10.32620/reks.2021.4.02	Not using eligible AI techniques or mechanistic epidemiological models
Simulation of Impact of Migration Caused by the War in Ukraine on COVID-19 Epidemic Process in Moldova	Chumachenko, D. (2022)	CEUR Workshop Proceedings		Not using eligible AI techniques or mechanistic epidemiological models
SISALERT-A generic web-based plant disease forecasting system	Fernandes, J. M. C. (2011)	CEUR Workshop Proceedings		Not studying infectious disease epidemiological modeling
The SIUQRD and Matern 5/2 GPR Models describing the Covid-19 Pandemic in India	Pal, B. (2021)	2021 4th International Conference on Electrical, Computer and Communication Technologies, ICECCT 2021	10.1109/icecct52121.2021.9616706	Not using eligible AI techniques or mechanistic epidemiological models
Social media based simulation models for understanding disease dynamics	Hua, T. (2018)	IJCAI International Joint Conference on Artificial Intelligence	10.24963/ijcai.2018/528	Not using eligible AI techniques or mechanistic epidemiological models
Soft computing techniques for forecasting of COVID-19 in Pakistan	Naeem, M. (2022)	Alexandria Engineering Journal	10.1016/j.aej.2022.07.029	Not using eligible AI techniques or mechanistic epidemiological models
Spatiotemporal data learning of graph convolutional neural network for epidemic prediction of COVID-19	Yang, C. (2021)	Journal of Image and Graphics	10.11834/jig.200393	English translation not available
Statistical machine learning forecasting simulation for discipline prediction and cost estimation of COVID-19 pandemic	Ghosh, P. (2021)	Data Science for COVID-19 Volume 1: Computational Perspectives	10.1016/b978-0-12-824536-1.00019-8	Not published in peer-reviewed journals or proceedings of conferences, workshops, or symposiums

Statistical Modelling with Machine Learning for COVID-19 Prediction	Shukla, D. A. K. (2021)	Proceedings - 2021 3rd International Conference on Advances in Computing, Communication Control and Networking, ICAC3N 2021	10.1109/icac3n53548.2021.9725645	Not using eligible AI techniques or mechanistic epidemiological models
STELAR: Spatio-temporal Tensor Factorization with Latent Epidemiological Regularization	Kargas, N. (2021)	35th AAAI Conference on Artificial Intelligence, AAAI 2021		Not using eligible AI techniques or mechanistic epidemiological models
A study to forecast healthcare capacity dynamics in the wake of the COVID-19 pandemic	Patil, A. (2023)	International Journal of Physical Distribution and Logistics Management	10.1108/ijpdlm-10-2022-0305	No integration of AI techniques and mechanistic epidemiological models
System identification of dengue fever epidemics in Cuba	García-Garaluz, E. (2009)	Lecture Notes in Computer Science (including subseries Lecture Notes in Artificial Intelligence and Lecture Notes in Bioinformatics)	10.1007/978-3-642-02478-8_113	Not using eligible AI techniques or mechanistic epidemiological models
Testing the Applicability of IT Instrumentation to Projecting the Spread of Viral Epidemics	Kramarenko, E. R. (2020)	2020 International Multi-Conference on Industrial Engineering and Modern Technologies, FarEastCon 2020	10.1109/FarEastCon50210.2020.9271094	No integration of AI techniques and mechanistic epidemiological models
Towards Differentiable Agent-Based Simulation	Andelfinger, P. (2023)	Acm Transactions on Modeling and Computer Simulation	10.1145/3565810	Not using eligible AI techniques or mechanistic epidemiological models
Using Data Mining Technology in Monitoring and Modeling the Epidemiological Situation of the Human Immunodeficiency Virus in Kazakhstan	Kubegenova, A. D. (2022)	Communications in Computer and Information Science	10.1007/978-3-031-21340-3_6	Not using eligible AI techniques or mechanistic epidemiological models
Using Dynamic Models to Showcase Pandemic Prevention Empirical Covid-19	Gowramma, G. S. (2023)	Lecture Notes in Electrical Engineering	10.1007/978-981-19-5936-3_35	Not studying infectious disease epidemiological modeling
Using Epidemic Modeling, Machine Learning and Control Feedback Strategy for Policy Management of COVID-19	Narayan, K. (2022)	IEEE Access	10.1109/access.2022.3206790	Not using eligible AI techniques or mechanistic epidemiological models

Vaccination and isolation based control design of the COVID-19 pandemic based on adaptive neuro fuzzy inference system optimized with the genetic algorithm	Abbasi, Z. (2023)	Evolving Systems	10.1007/s12530-022-09459-9	No integration of AI techniques and mechanistic epidemiological models
When and how to lift the lockdown? Global COVID-19 scenario analysis and policy assessment using compartmental Gaussian processes	Qian, Z. (2020)	Advances in Neural Information Processing Systems		Not using eligible AI techniques or mechanistic epidemiological models
Wild blueberry yield prediction using a combination of computer simulation and machine learning algorithms	Obsie, E. Y. (2020)	Computers and Electronics in Agriculture	10.1016/j.compag.2020.105778	Not studying infectious disease epidemiological modeling
Advanced Multi-Mutation With Intervention Policies Pandemic Model	Lazebnik, T. (2022)	IEEE Access	10.1109/access.2022.3149956	No integration of AI techniques and mechanistic epidemiological models
AI-Driven Agent-Based Models to Study the Role of Vaccine Acceptance in Controlling COVID-19 Spread in the US	Bhattacharya, P. (2021)	2021 IEEE International Conference on Big Data (Big Data)	10.1109/BigData52589.2021.9671811	Not using eligible AI techniques or mechanistic epidemiological models
Application of Horizontal Federated Learning for Critical Resource Allocation - Lessons from the COVID-19 Pandemic	Kujur, A. (2023)	2023 International Conference on Advancement in Computation & Computer Technologies (InCACCT)	10.1109/InCACCT57535.2023.10141746	Not using eligible AI techniques or mechanistic epidemiological models
ART2 based classification of sparse high dimensional parameter sets for a simulation parameter selection assistant	Klotz, G. A. (2005)	Proceedings. 2005 IEEE International Joint Conference on Neural Networks, 2005.	10.1109/ijcnn.2005.1556003	Not using eligible AI techniques or mechanistic epidemiological models
A COVID-19 Control Policy Evaluation and Prediction Method Based on Clustering	Guo, Y. (2022)	2022 International Conference on Machine Learning, Cloud Computing and Intelligent Mining (MLCCIM)	10.1109/mlccim55934.2022.00027	Not using eligible AI techniques or mechanistic epidemiological models
Covid-19 Outbreak Modelling Using Regression Techniques	Bansal, A. (2021)	2021 International Conference on Innovative Practices in Technology and Management (ICIPTM)	10.1109/iciptm52218.2021.9388347	Not using eligible AI techniques or mechanistic epidemiological models

Covid-19 Pandemic Predictive System Using Machine Learning	Sharma, S. (2022)	2022 4th International Conference on Advances in Computing, Communication Control and Networking (ICAC3N)	10.1109/icac3n56670.2022.10074050	No integration of AI techniques and mechanistic epidemiological models
Data-Driven Control of COVID-19 in Buildings: A Reinforcement-Learning Approach	Hosseinloo, A. H. (2023)	IEEE Transactions on Automation Science and Engineering	10.1109/tase.2023.3315549	Not using eligible AI techniques or mechanistic epidemiological models
Deep Reinforcement Learning-based Vaccine Distribution Strategies	Wei, X. (2021)	2021 2nd International Conference on Electronics, Communications and Information Technology (CECIT)	10.1109/cecit53797.2021.00082	No integration of AI techniques and mechanistic epidemiological models
Forecasting & Severity Analysis of COVID-19 Using Machine Learning Approach with Advanced Data Visualization	Sarkar, O. (2020)	2020 23rd International Conference on Computer and Information Technology (ICCIT)	10.1109/iccit51783.2020.9392704	Not using eligible AI techniques or mechanistic epidemiological models
Hybrid Conceptual Modeling for Simulation: An Ontology Approach During Covid-19	Saleh, N. (2021)	2021 Winter Simulation Conference (WSC)	10.1109/wsc52266.2021.9715298	Not using eligible AI techniques or mechanistic epidemiological models
Investigation of recurrent networks LSTM in the problem of Covid-19 forecasting	Zaychenko, Y. (2021)	2021 IEEE 16th International Conference on Computer Sciences and Information Technologies (CSIT)	10.1109/csit52700.2021.9648696	Not using eligible AI techniques or mechanistic epidemiological models
Learning machines for computational epidemiology	Boman, M. (2014)	2014 IEEE International Conference on Big Data (Big Data)	10.1109/BigData.2014.7004419	Framework only
Neuro-dynamic programming approach to optimal control of spreading of dengue viruses	Putri, A. P. (2018)	2018 International Conference on Computer, Control, Informatics and its Applications (IC3INA)	10.1109/ic3ina.2018.8629508	Not studying infectious disease epidemiological modeling

Optimal Time-Varying Vaccine Allocation Amid Pandemics With Uncertain Immunity Ratios	Roy, S. (2021)	IEEE Access	10.1109/access.2021.3053268	No integration of AI techniques and mechanistic epidemiological models
Optimizing Large-Scale Distribution Center Locations During the COVID-19 Quarantine	Wang, L. (2023)	2023 IEEE Congress on Evolutionary Computation (CEC)	10.1109/cec53210.2023.10254157	Not using eligible AI techniques or mechanistic epidemiological models
Pareto cascade modeling of diffusion networks	Ma, C. (2018)	2018 International Joint Conference on Neural Networks (IJCNN)	10.1109/ijcnn.2018.8489509	Not using eligible AI techniques or mechanistic epidemiological models
Predicting Dengue Outbreaks with Explainable Machine Learning	Aleixo, R. (2022)	2022 22nd IEEE International Symposium on Cluster, Cloud and Internet Computing (CCGrid)	10.1109/CCGrid54584.2022.00114	Not using eligible AI techniques or mechanistic epidemiological models
Prediction and Analysis of Covid-19 Positive Cases Using Deep Learning Model	Farhan, M. (2021)	2021 International Conference on Computing, Electronic and Electrical Engineering (ICE Cube)	10.1109/ICECube53880.2021.9628335	Not using eligible AI techniques or mechanistic epidemiological models
Prediction model of BP neural network based on improved genetic algorithm optimization for infectious diseases	Ma, Q. (2017)	2017 Chinese Automation Congress (CAC)	10.1109/cac.2017.8243521	Not using eligible AI techniques or mechanistic epidemiological models
The Prediction of COVID-19 Pandemic Situation in Indonesia Using SVR and SIR Algorithm	Yaqin, A. (2022)	2022 6th International Conference on Information Technology, Information Systems and Electrical Engineering (ICITISEE)	10.1109/icitisee57756.2022.10057813	No integration of AI techniques and mechanistic epidemiological models
Prediction of COVID-19 Spreading Using Support Vector Regression and Susceptible Infectious Recovered Model	Mantoro, T. (2020)	2020 6th International Conference on Computing Engineering and Design (ICCED)	10.1109/icced51276.2020.9415858	No integration of AI techniques and mechanistic epidemiological models
Relational Classification Through Three-State Epidemic Dynamics	Galstyan, A. (2006)	2006 9th International Conference on Information Fusion	10.1109/icif.2006.301688	Not studying infectious disease epidemiological modeling

Risk Region-based Prediction Model for the Epidemic Spreading	Li, F. (2023)	2023 26th International Conference on Computer Supported Cooperative Work in Design (CSCWD)	10.1109/cscwd57460.2023.10151996	No integration of AI techniques and mechanistic epidemiological models
Role of Data Mining techniques and MCDM model in detection and severity monitoring to serve as precautionary methodologies against 'Dengue'	Addy, M. (2020)	2020 International Conference on Computer Science, Engineering and Applications (ICCSEA)	10.1109/iccsea49143.2020.9132879	Not studying infectious disease epidemiological modeling
Seasonal Infectious Disease Spread Prediction Using Matrix Decomposition Method	Hirose, H. (2013)	2013 4th International Conference on Intelligent Systems, Modelling and Simulation	10.1109/isms.2013.9	No integration of AI techniques and mechanistic epidemiological models
Self-Attention-Based Deep Learning Network for Regional Influenza Forecasting	Jung, S. (2022)	IEEE Journal of Biomedical and Health Informatics	10.1109/jbhi.2021.3093897	Not using eligible AI techniques or mechanistic epidemiological models
ST-COVID: a Deep Multi-View Spatio-temporal Model for COVID-19 Forecasting	Ju, C. (2022)	2022 Asia Conference on Algorithms, Computing and Machine Learning (CACML)	10.1109/cacml55074.2022.00133	Not using eligible AI techniques or mechanistic epidemiological models
Stabilization of HIV Infection Using Deep Recurrent SVM Based Generalized Predictive Control	Dilmen, E. (2018)	2018 6th International Conference on Control Engineering & Information Technology (CEIT)	10.1109/ceit.2018.8751922	Not studying infectious disease epidemiological modeling
STSIR: A Spatial Temporal Pandemic Model with Mobility Data - A COVID-19 Study	Pan, W. (2021)	2021 International Joint Conference on Neural Networks (IJCNN)	10.1109/ijcnn52387.2021.9533596	Not using eligible AI techniques or mechanistic epidemiological models
A Study on Prediction and Spreading of Epidemic Diseases	Ajith, A. (2020)	2020 International Conference on Communication and Signal Processing (ICCSP)	10.1109/iccsp48568.2020.9182147	No integration of AI techniques and mechanistic epidemiological models

Travel Avoidance Dynamics: The Case of COVID-19	Oumayma, L. (2021)	2021 12th International Conference on Computing Communication and Networking Technologies (ICCCNT)	10.1109/icccnt51525.2021.9580037	Not studying infectious disease epidemiological modeling
Trident: Distributed Storage, Analysis, and Exploration of Multidimensional Phenomena	Malensek, M. (2019)	Ieee Transactions on Big Data	10.1109/tbdata.2018.2817505	Not studying infectious disease epidemiological modeling
A Unified Framework of Epidemic Spreading Prediction by Empirical Mode Decomposition-Based Ensemble Learning Techniques	Feng, Y. (2019)	Ieee Transactions on Computational Social Systems	10.1109/tcss.2019.2915615	Not using eligible AI techniques or mechanistic epidemiological models
Use of Machine Learning and Deep Learning Techniques to Predict Cases of Hospitalizations Caused by Dengue	Lalitha, T. (2023)	2023 International Conference on Advances in Computing, Communication and Applied Informatics (ACCAI)	10.1109/accai58221.2023.10199840	Not using eligible AI techniques or mechanistic epidemiological models
Bayesian statistical parametric verification and synthesis by machine learning	Bortolussi, Luca (2018)	Proceedings of the 2018 Winter Simulation Conference		Not using eligible AI techniques or mechanistic epidemiological models
Big data, agents, and machine learning: towards a data-driven agent-based modeling approach	Kavak, Hamdi (2018)	Proceedings of the Annual Simulation Symposium		Framework only
Geospatial forecasting of COVID-19 spread and risk of reaching hospital capacity	Bobashev, Georgiy (2020)	SIGSPATIAL Special	10.1145/3431843.3431847	Not published in peer-reviewed journals or proceedings of conferences, workshops, or symposiums
Identifying Correlates of Emergent Behaviors in Agent-Based Simulation Models Using Inverse Reinforcement Learning	Dadgostari, Faraz (2023)	Proceedings of the Winter Simulation Conference		Duplicates
Leveraging social media data in agent-based simulations	Padilla, Jose J. (2014)	Proceedings of the 2014 Annual Simulation Symposium		Framework only
A New Application of Machine Learning: Detecting Errors in Network Simulations	Wozniak, Maciej K. (2023)	Proceedings of the Winter Simulation Conference		Not studying infectious disease epidemiological modeling

Statistics Is Much More Powerful Than Murder Hornet: —A Statistical Method to Predict the Spread of Vespa mandarinia	Wang, Haiguang (2021)	2021 2nd International Conference on Artificial Intelligence and Information Systems	10.1145/3469213.3470380	Not studying infectious disease epidemiological modeling
Analysis and Judgment from Computation Model on the Complex Characteristics of THE LATEST EPIDEMIC PANDEMIC	Li, Y. (2023)	Proceedings of SPIE - The International Society for Optical Engineering	10.1117/12.2688200	Not reporting original research
Approximate numerical algorithms and artificial neural networks for analyzing a fractal-fractional mathematical model	Najafi, H. (2023)	AIMS Mathematics	10.3934/math.20231447	No integration of AI techniques and mechanistic epidemiological models
A computational stochastic procedure for solving the epidemic breathing transmission system	AbuAli, N. (2023)	Scientific Reports	10.1038/s41598-023-43324-2	No integration of AI techniques and mechanistic epidemiological models
CovidCurve: curve fitting modeling and early forecasting of the size and duration of Covid-19 outbreaks	Lymperopoulos, I. N. (2023)	Applied Intelligence	10.1007/s10489-023-05011-7	Not using eligible AI techniques or mechanistic epidemiological models
Extended Runge-Kutta Scheme and Neural Network Approach for SEIR Epidemic Model with Convex Incidence Rate	Al Ghafli, A. A. (2023)	Processes	10.3390/pr11092518	No integration of AI techniques and mechanistic epidemiological models
Forecasting Covid-19 outbreak using CLR optimized stacked generalization computational models	Jeyabalan, S. D. (2023)	Journal of Intelligent and Fuzzy Systems	10.3233/jifs-231229	Not using eligible AI techniques or mechanistic epidemiological models
HierST: A Unified Hierarchical Spatial-temporal Framework for COVID-19 Trend Forecasting	Zheng, S. (2021)	30th ACM International Conference on Information and Knowledge Management (CIKM)	10.1145/3459637.3481927	Not using eligible AI techniques or mechanistic epidemiological models
Learning the Dynamics of Sparsely Observed Interacting Systems	Bleistein, L. (2023)	Proceedings of Machine Learning Research		Not using eligible AI techniques or mechanistic epidemiological models
Model discovery of compartmental models with Graph-Supported Neural Networks	Aguilar-Canto, F. J. (2024)	Applied Mathematics and Computation	10.1016/j.amc.2023.128392	No integration of AI techniques and mechanistic epidemiological models

Specialist hybrid models with asymmetric training for malaria prevalence prediction	Fisher, T. (2023)	Frontiers in public health	10.3389/fpubh.2023.1207624	Not using eligible AI techniques or mechanistic epidemiological models
Using neural networks to calibrate agent based models enables improved regional evidence for vaccine strategy and policy	Chopra, A. (2023)	Vaccine	10.1016/j.vaccine.2023.08.060	Not reporting original research
Variable screening methods in spatial infectious disease transmission models	Akter, T. (2023)	Spatial and Spatio-temporal Epidemiology	10.1016/j.sste.2023.100622	Not using eligible AI techniques or mechanistic epidemiological models
Prediction of Epidemic Peak and Infected Cases for COVID-19 Disease in Malaysia, 2020	Alsayed, Abdallah (2020)	International Journal of Environmental Research and Public Health		No integration of AI techniques and mechanistic epidemiological models
The mathematical and machine learning models to forecast the COVID-19 outbreaks in Bangladesh	Babu, Md Ashraful (2022)	Journal of Interdisciplinary Mathematics	10.1080/09720502.2021.2015095	Full text not available
A Multivariate Spatiotemporal Model of COVID-19 Epidemic Using Ensemble of ConvLSTM Networks	Paul, Swarna Kamal (2021)	Journal of The Institution of Engineers (India): Series B	10.1007/s40031-020-00517-x	Not using eligible AI techniques or mechanistic epidemiological models
GeoAI-based Epidemic Control with Geo-Social Data Sharing on Blockchain	S. Peng (2021)	2020 IEEE International Conference on E-health Networking, Application & Services (HEALTHCOM)	10.1109/HEALTHCOM49281.2021.9399031	Not using eligible AI techniques or mechanistic epidemiological models
How robust are the estimated effects of nonpharmaceutical interventions against COVID-19?	Sharma, Mrinank (2020)	Advances in Neural Information Processing Systems		Not using eligible AI techniques or mechanistic epidemiological models
Risk of a second wave of Covid-19 infections: using artificial intelligence to investigate stringency of physical distancing policies in North America	Vaid, Shashank (2020)	International Orthopaedics	10.1007/s00264-020-04653-3	Not using eligible AI techniques or mechanistic epidemiological models
DEFSI: Deep Learning Based Epidemic Forecasting with Synthetic Information	Wang, Lijing (2019)	Proceedings of the AAAI Conference on Artificial Intelligence	10.1609/aaai.v33i01.33019607	Duplicates
Modified SEIR and AI prediction of the epidemics trend of	Yang, Z. (2020)	J Thorac Dis	10.21037/jtd.2020.02.64	No integration of AI techniques and mechanistic epidemiological models

COVID-19 in China under public health interventions				
Epidemiologically Significant and Geographically Equitable Covid-19 Wastewaterbased Epidemiology (Wbe) Site Selection Strategy for the State of Illinois	Tiwari, A. (2023)	Journal of Investigative Medicine	10.1177/10815589231189337	Not reporting original research
Fixed-point theory and numerical analyzis of an epidemic model with fractional calculus: Exploring dynamical behavior	Alshehry, A. S. (2023)	Open Physics	10.1515/phys-2023-0121	No integration of AI techniques and mechanistic epidemiological models
Neural-SEIR: A flexible data-driven framework for precise prediction of epidemic disease	Wang, H. (2023)	Mathematical biosciences and engineering : MBE	10.3934/mbe.2023749	Duplicates
Semi-supervised Neural Networks solve an inverse problem for modeling Covid-19 spread	Paticchio, Alessandro (2020)	NeurIPS workshop (2020)		Duplicates

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