

Stacked kinship CNN vs. GBLUP for genomic predictions of additive and complex continuous phenotypes

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Supplementary Table S2: detail of model performance for each model and phenotype.

Predictive ability was measured as Pearson correlation, root mean squared error (RMSE) and normalized discounted cumulative gain (NDCG) on the top 20% of records. DNN: deep neural network model; GBLUP(A): GBLUP using only the additive kinship matrix; GBLUP-optimal: GBLUP using additive, dominant and epistasis kinship matrix as needed, depending on the phenotype.

regressor_ flag	type_t rait	trait	pearson _avg	pearson_ std	rmse_a vg	rmse_st d	ndcg_a vg	ndcg_st d
DNN	A --> D	1_0_0_0_0	0.50511	0.05615	0.72318	0.05436	0.45242	0.13824
DNN	A --> D	0.75_0_0_0_0.25	0.51938	0.06564	0.70165	0.04466	0.44291	0.20244
DNN	A --> D	0.5_0_0_0_0.5	0.43695	0.07832	0.76065	0.04348	0.36591	0.16787
DNN	A --> D	0.25_0_0_0_0.75	0.30053	0.08773	0.81852	0.05508	0.26686	0.17729
DNN	A --> D	0_0_0_0_1	0.27388	0.05958	0.84647	0.03958	0.13848	0.21754
DNN	epistas is	0.33_0.34_0_0_0.33	0.41019	0.07519	0.76801	0.05041	0.34762	0.19856
DNN	epistas is	0.33_0.113_0.113_0. 113_0.33	0.42592	0.08369	0.74506	0.04808	0.30816	0.24387
DNN	epistas is	0.33_0_0.34_0_0.33	0.40489	0.07536	0.76490	0.04272	0.37766	0.17080
DNN	epistas is	0.33_0_0_0.34_0.33	0.43392	0.05763	0.76891	0.04367	0.38019	0.19237
GBLUP_op timal	A --> D	1_0_0_0_0	0.66917	0.00537	0.74359	0.00400	0.65451	0.02412
GBLUP_op timal	A --> D	0.75_0_0_0_0.25	0.70611	0.00358	0.70805	0.00357	0.63553	0.04149
GBLUP_op timal	A --> D	0.5_0_0_0_0.5	0.61511	0.00779	0.78838	0.00586	0.54296	0.02746
GBLUP_op	A --> D	0.25_0_0_0_0.75	0.51287	0.01248	0.85788	0.00774	0.35366	0.03468

timal								
GBLUP_op timal	A --> D	0_0_0_0_1	0.50383	0.01826	0.86407	0.01056	0.22847	0.03357
GBLUP_op timal	epistas is	0.33_0.34_0_0_0.33	0.59749	0.00903	0.80259	0.00620	0.48326	0.03147
GBLUP_op timal	epistas is	0.33_0.113_0.113_0. 113_0.33	0.60458	0.03249	0.79676	0.02486	0.48067	0.05220
GBLUP_op timal	epistas is	0.33_0_0.34_0_0.33	0.54567	0.00780	0.83892	0.00542	0.56090	0.03997
GBLUP_op timal	epistas is	0.33_0_0_0.34_0.33	0.62853	0.00884	0.77798	0.00651	0.54171	0.06139
GBLUP(A)	A --> D	1_0_0_0_0	0.67605	0.00595	0.73784	0.00528	0.65794	0.01953
GBLUP(A)	A --> D	0.75_0_0_0_0.25	0.70659	0.00730	0.70801	0.00725	0.63252	0.02812
GBLUP(A)	A --> D	0.5_0_0_0_0.5	0.58712	0.00444	0.81015	0.00242	0.58192	0.02319
GBLUP(A)	A --> D	0.25_0_0_0_0.75	0.37419	0.01330	0.92800	0.00671	0.46830	0.03046
GBLUP(A)	A --> D	0_0_0_0_1	0.28021	0.00915	0.96054	0.00327	0.46122	0.04276
GBLUP(A)	epistas is	0.33_0.34_0_0_0.33	0.56507	0.01265	0.82545	0.00955	0.51822	0.01487
GBLUP(A)	epistas is	0.33_0.113_0.113_0. 113_0.33	0.58264	0.04718	0.81141	0.03405	0.49995	0.03994
GBLUP(A)	epistas is	0.33_0_0.34_0_0.33	0.51611	0.00775	0.85743	0.00424	0.58032	0.03980
GBLUP(A)	epistas is	0.33_0_0_0.34_0.33	0.60110	0.01098	0.79984	0.00822	0.58176	0.05213