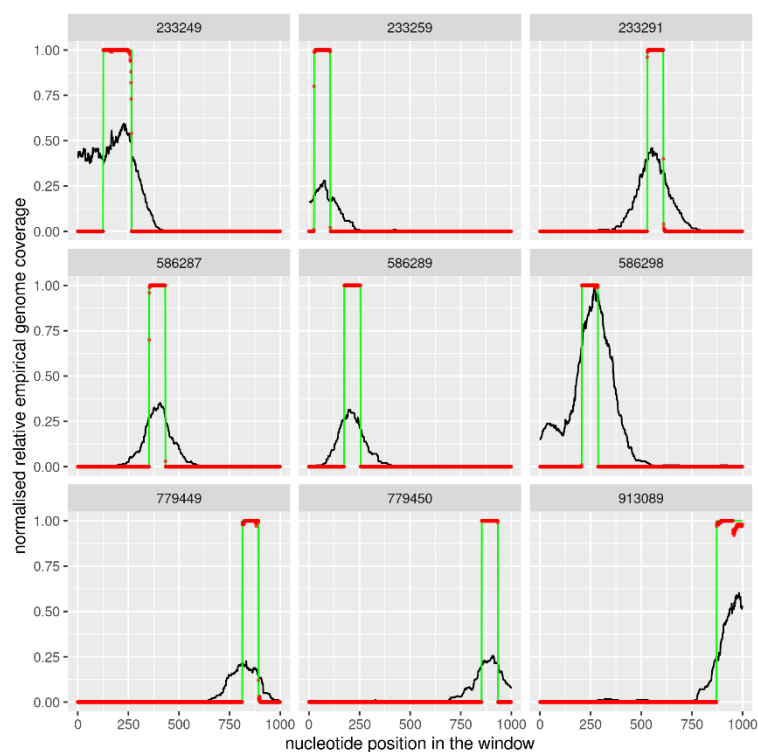
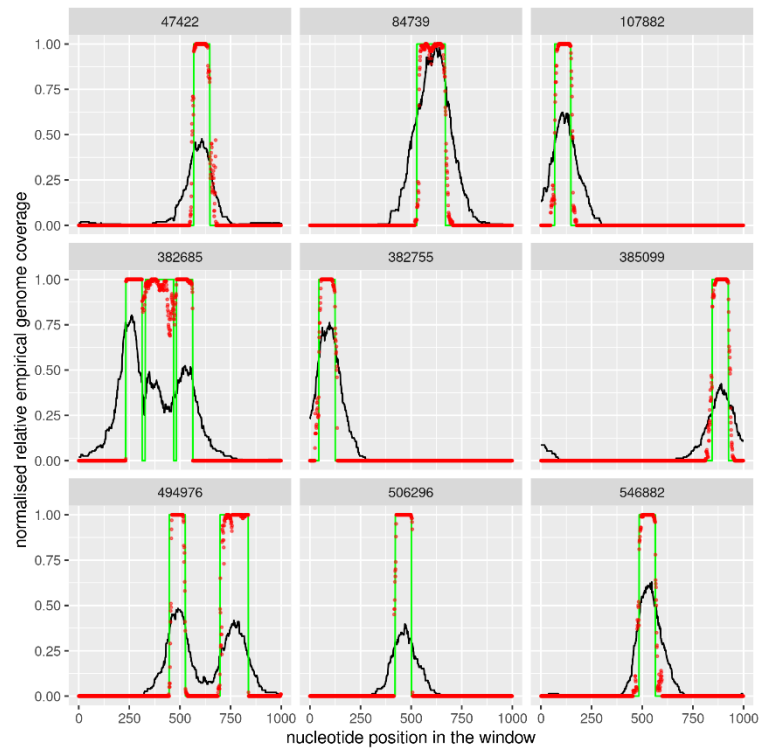


Additional file 4: Example plots of all models representative for the top 99th, median and worst 1st percentile predictions based on the F1 score rankings of 1M predictions.

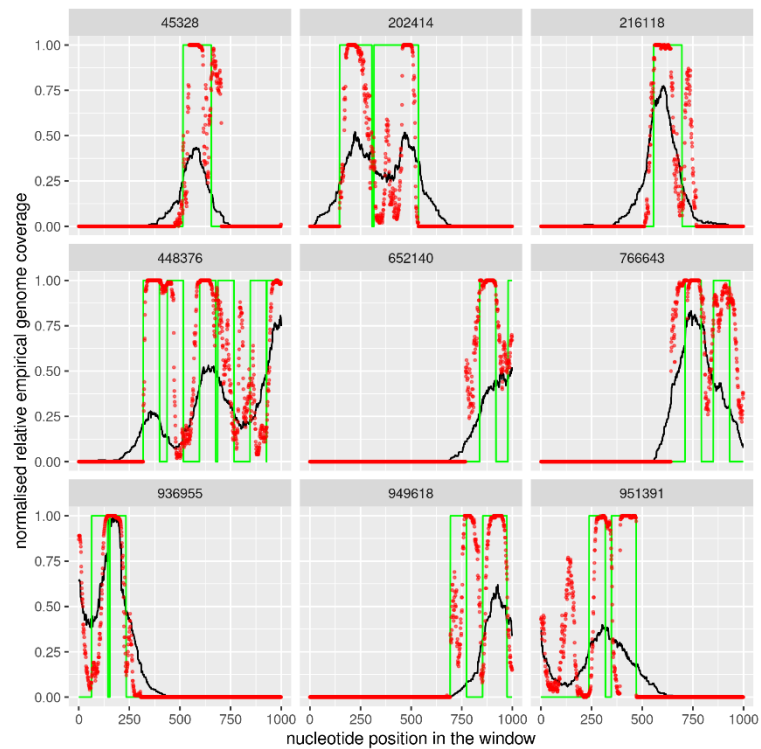
The color scheme for each examples are as follows: the black lines show the relative coverage in the data segment, the red dots are the probability of bait positions, the green line represent the bait positions (value 1 for bait position, value 0 for no bait position, the lines are used to better visualize the start and end of bait regions in the data segment)



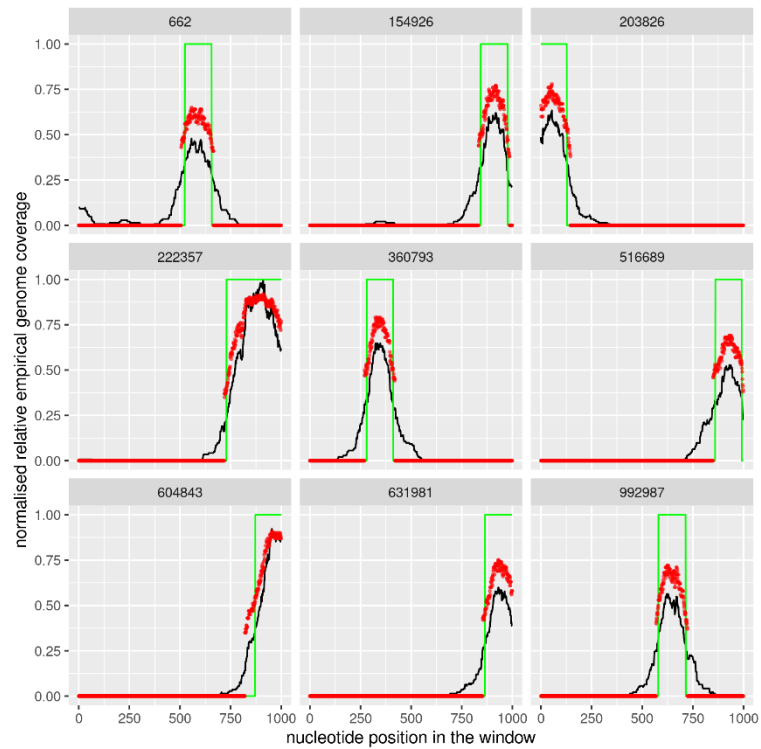
9 example plots (representative for the top 99th percentile F1 score rank) to visualize the performance of **model 1**(1D CNN with batch normalization, reverse weighting, causal padding) using the 1000 base pair train data segment.



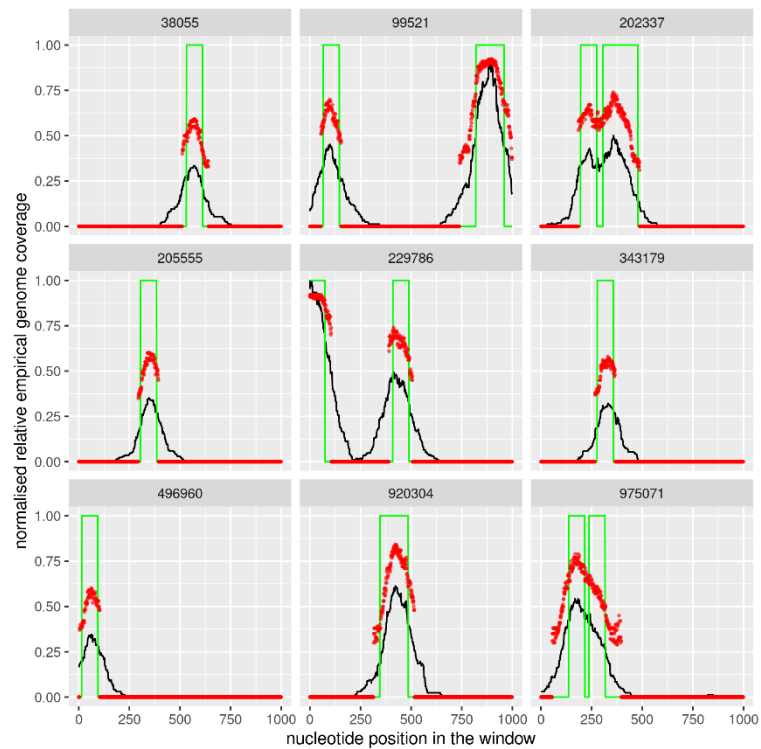
9 example plots (representative for the median percentile F1 score rank) to visualize the performance of **model 1** (1D CNN with batch normalization, reverse weighting, causal padding) using the 1000 base pair train data segment.



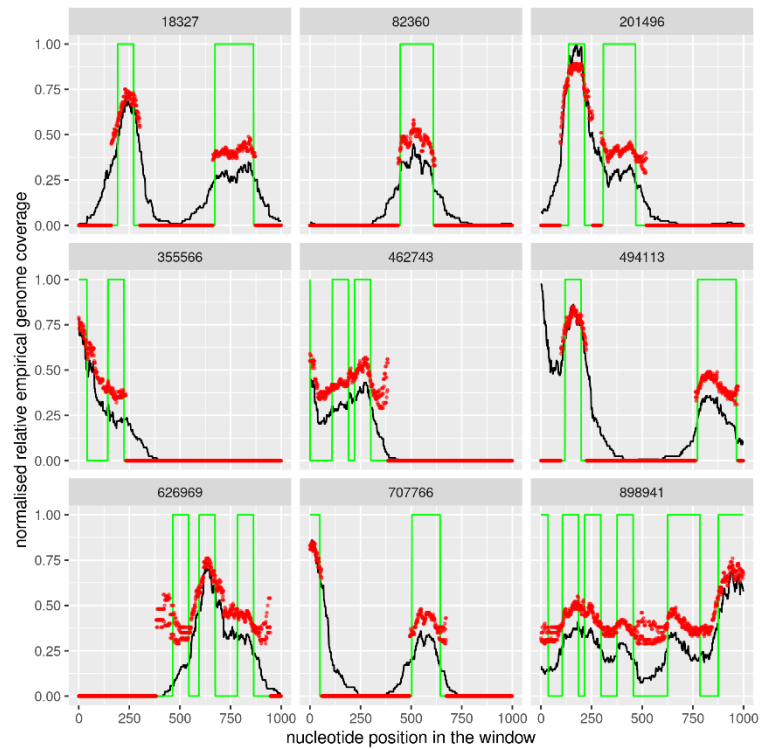
9 example plots (representative for the worst 1st percentile F1 score rank) to visualize the performance of **model 1** (1D CNN with batch normalization, reverse weighting, causal padding) using the 1000 base pair train data segment.



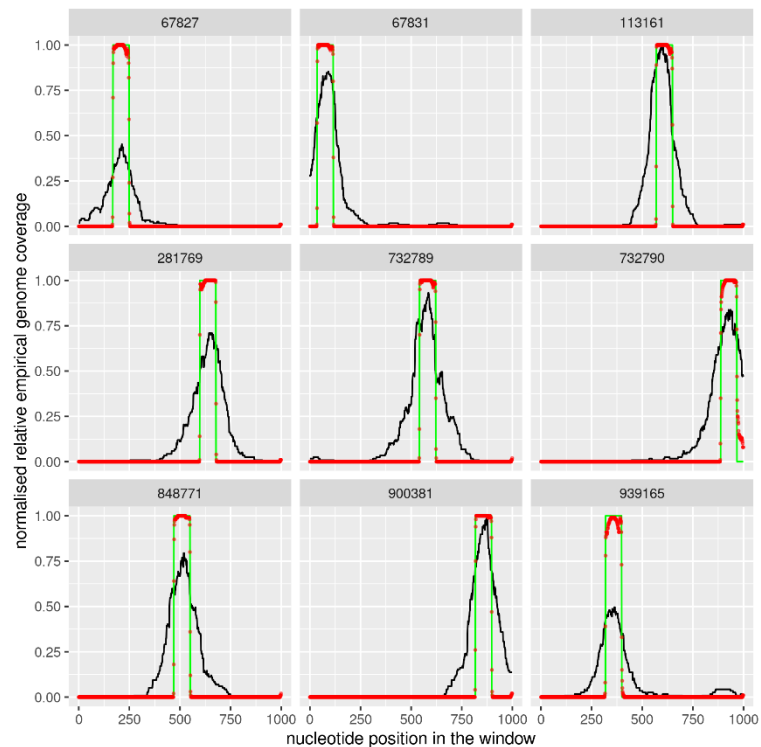
9 example plots (representative for the top 99th percentile F1 score rank) to visualize the performance of **model 2** (Dense NN with batch normalization, reverse weighting) using the 1000 base pair train data segment.



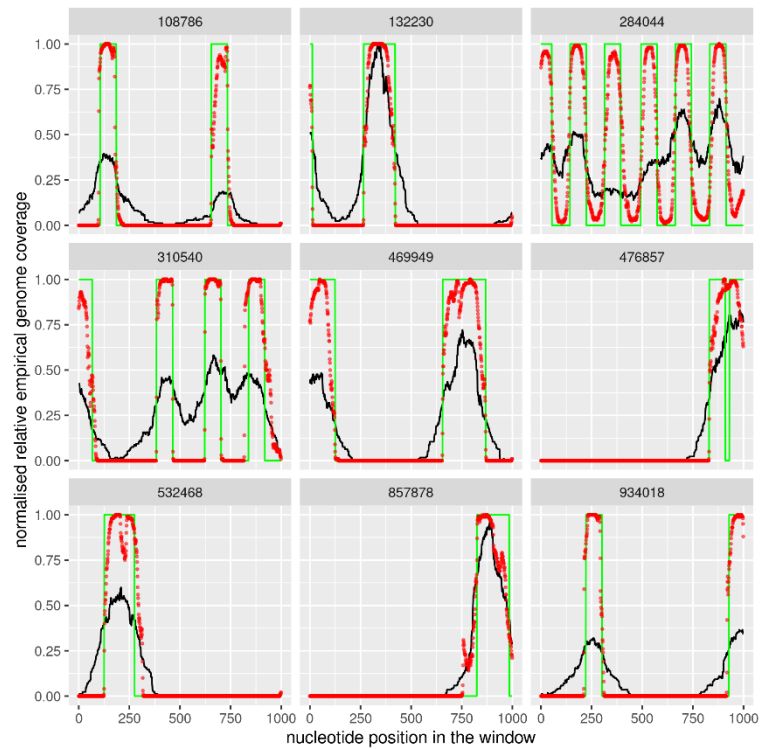
9 example plots (representative for the median percentile F1 score rank) to visualize the performance of **model 2** (Dense NN with batch normalization, reverse weighting) using the 1000 base pair train data segment.



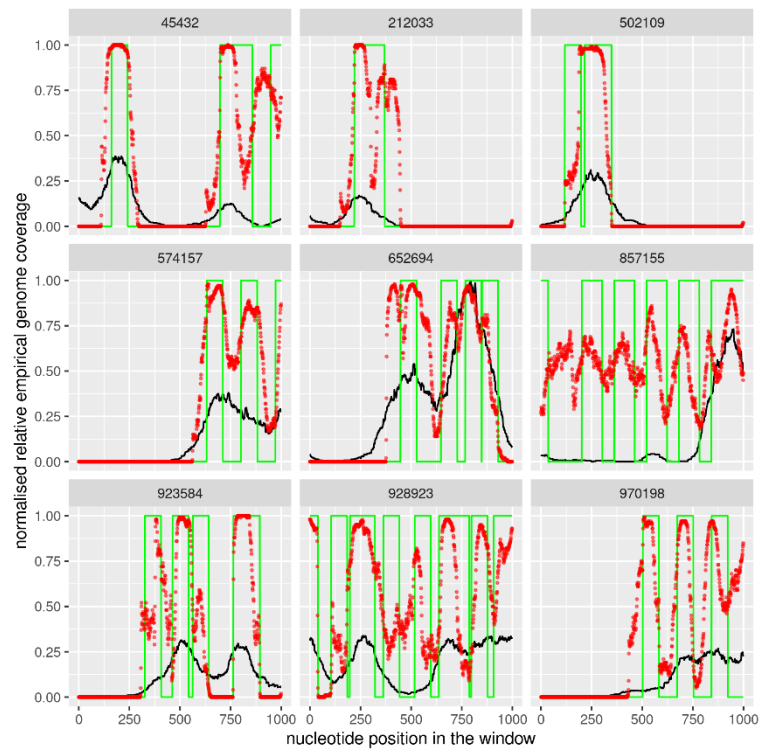
9 example plots (representative for the worst 1st percentile F1 score rank) to visualize the performance of **model 2** (Dense NN with batch normalization, reverse weighting) using the 1000 base pair train data segment.



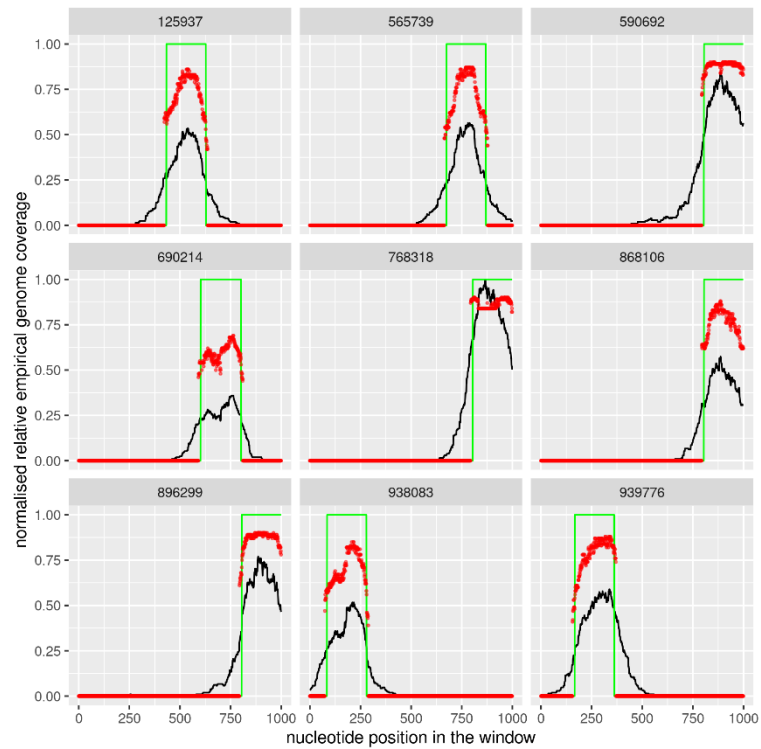
9 example plots (representative for the top 99th percentile F1 score rank) to visualize the performance of **model 3** (1D CNN with reverse weighting, causal padding) using the 1000 base pair train data segment.



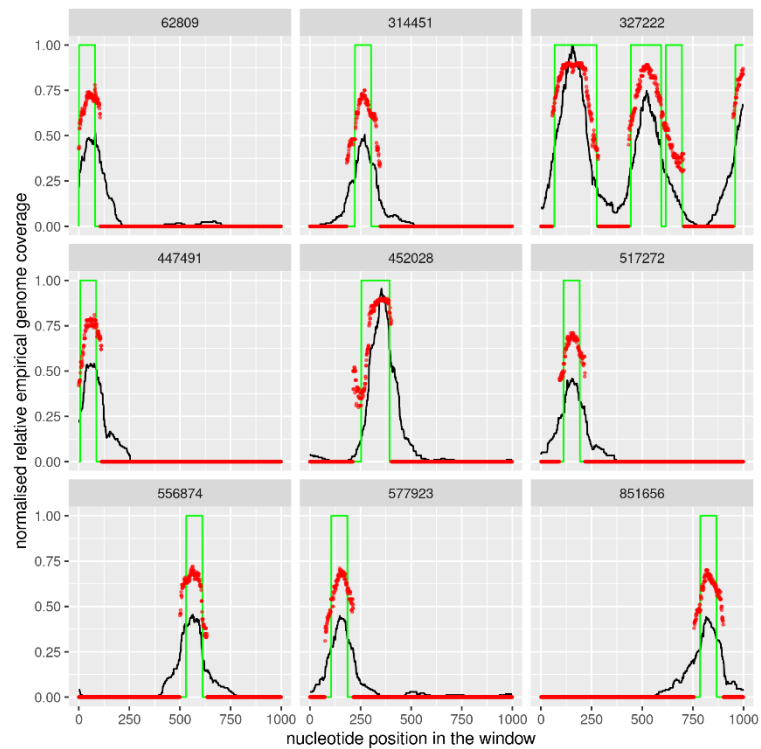
9 example plots (representative for the median percentile F1 score rank) to visualize the performance of **model 3** (1D CNN with reverse weighting, causal padding) using the 1000 base pair train data segment.



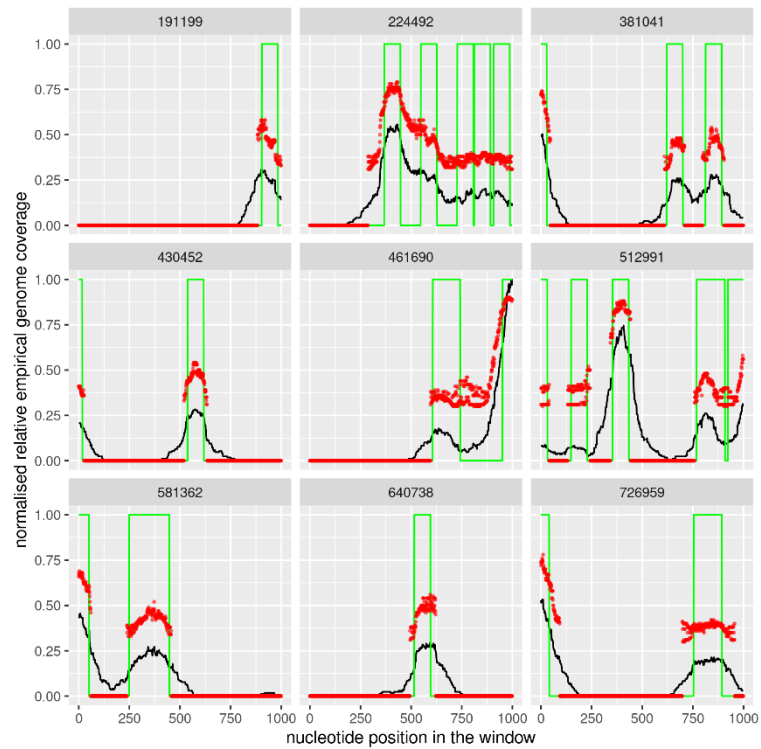
9 example plots (representative for the worst 1st percentile F1 score rank) to visualize the performance of **model 3** (1D CNN with reverse weighting, causal padding) using the 1000 base pair train data segment.



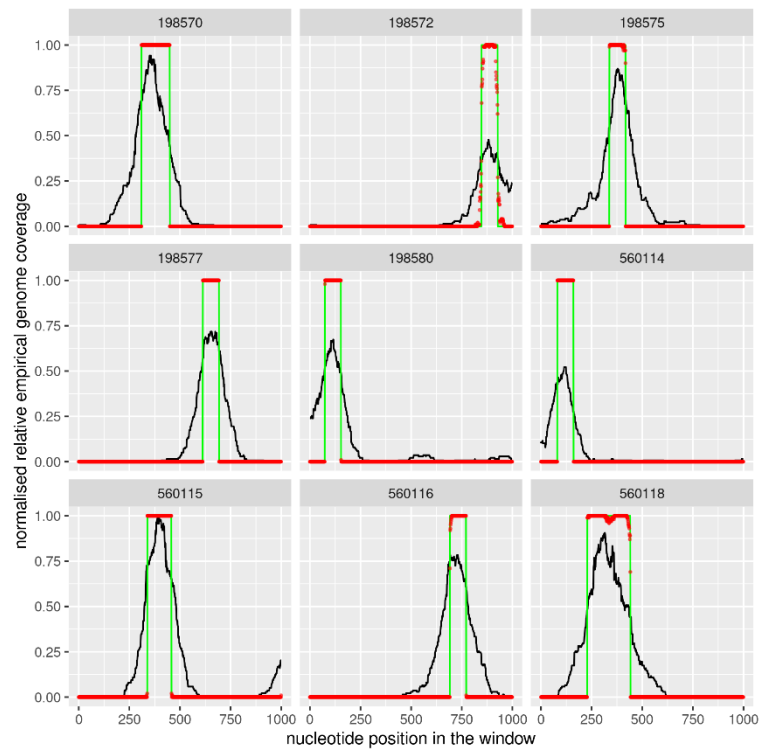
9 example plots (representative for the top 99th percentile F1 score rank) to visualize the performance of **model 4** (Dense NN with reverse weighting) using the 1000 base pair train data segment.



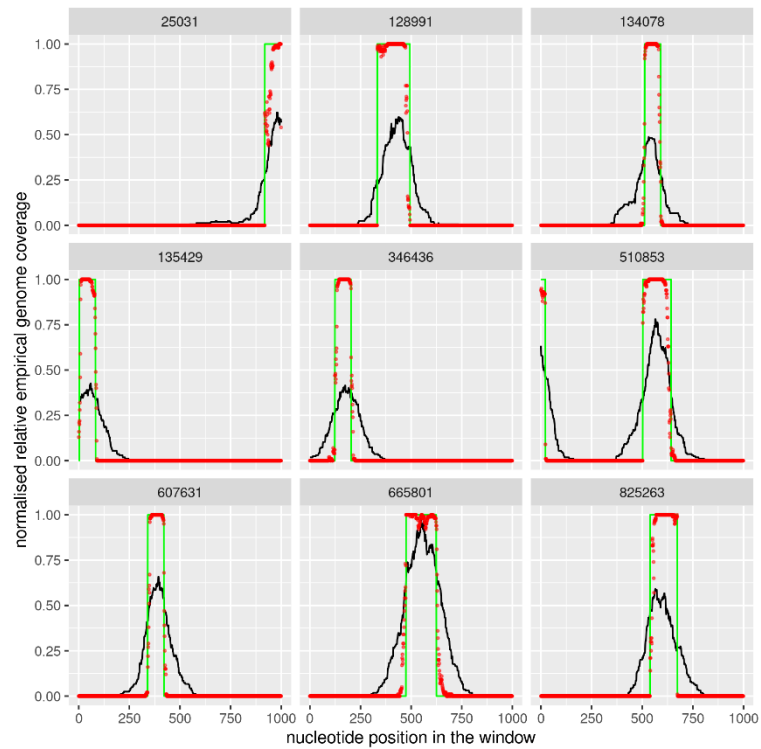
9 example plots (representative for the median percentile F1 score rank) to visualize the performance of **model 4** (Dense NN with reverse weighting) using the 1000 base pair train data segment.



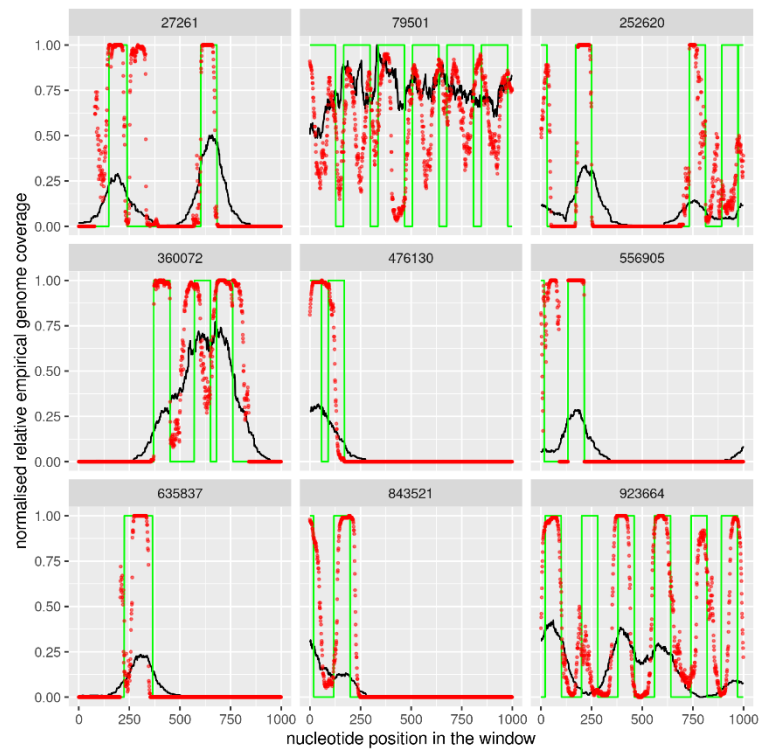
9 example plots (representative for the worst 1st percentile F1 score rank) to visualize the performance of **model 4** (Dense NN with reverse weighting) using the 1000 base pair train data segment.



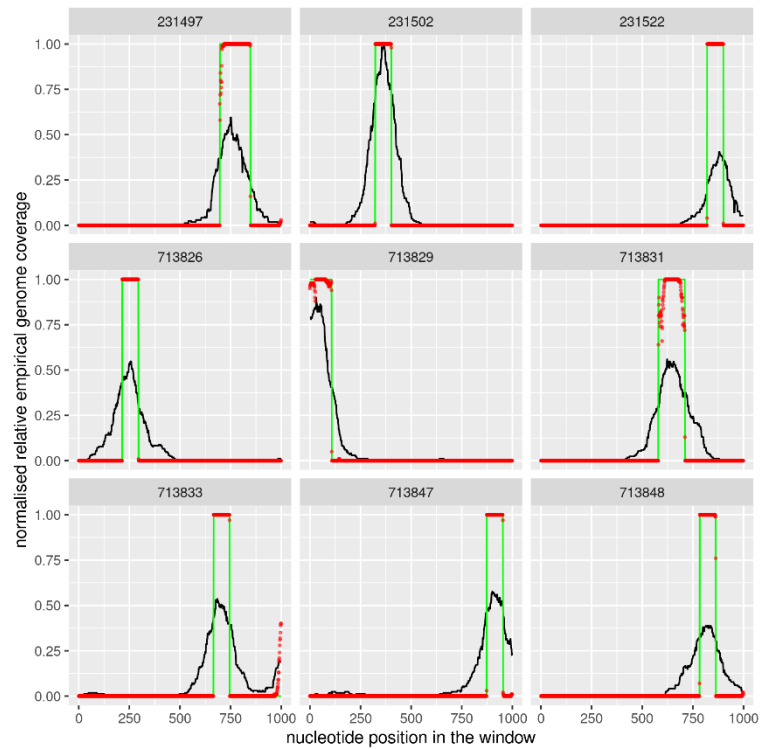
9 example plots (representative for the top 99th percentile F1 score rank) to visualize the performance of **model 5** (1D CNN with batch normalization, causal padding) using the 1000 base pair train data segment.



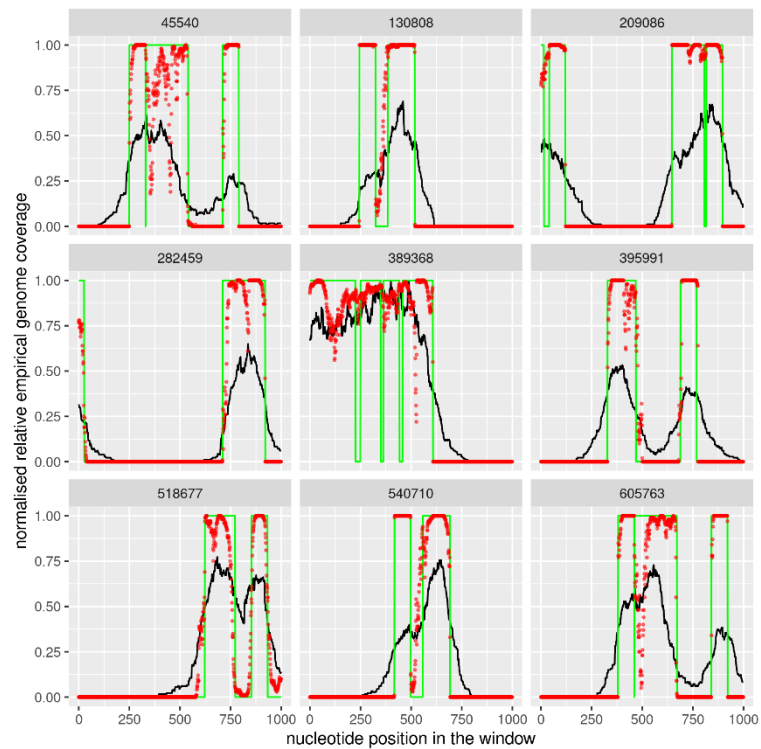
9 example plots (representative for the median percentile F1 score rank) to visualize the performance of **model 5** (1D CNN with batch normalization, causal padding) using the 1000 base pair train data segment.



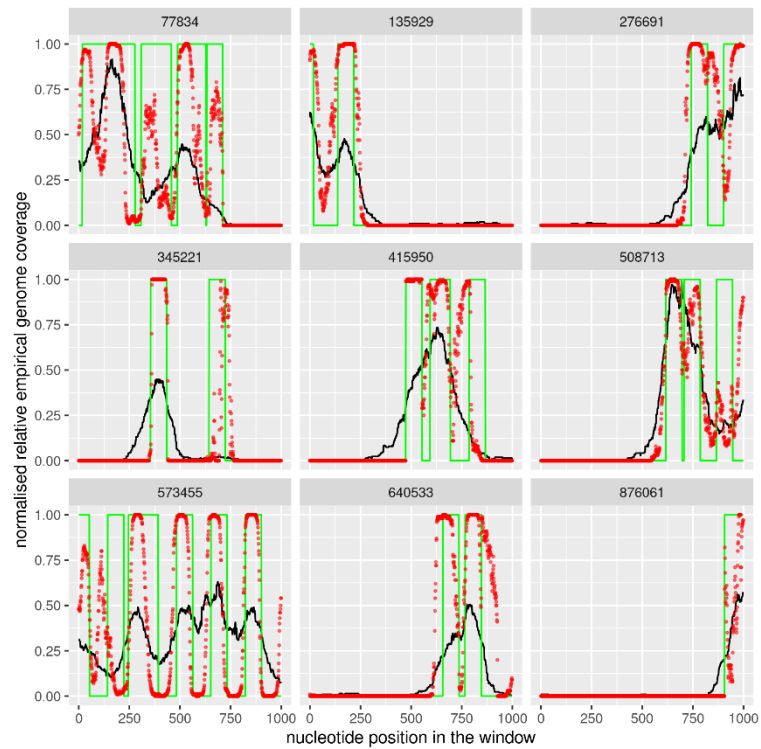
9 example plots (representative for the worst 1st percentile F1 score rank) to visualize the performance of **model 5** (1D CNN with batch normalization, causal padding) using the 1000 base pair train data segment.



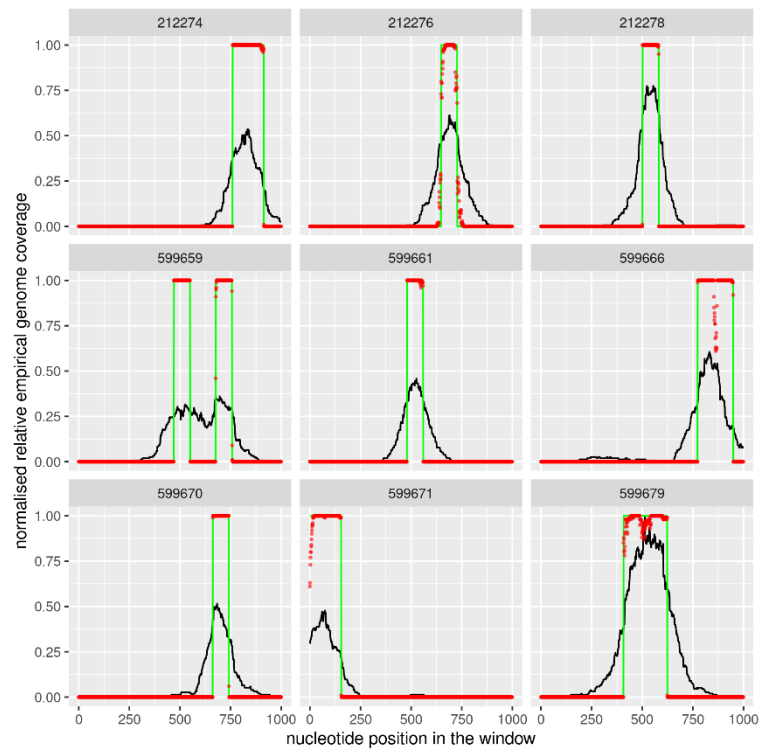
9 example plots (representative for the top 99th percentile F1 score rank) to visualize the performance of **model 6** (1D CNN with batch normalization, reverse weighting, valid padding) using the 1000 base pair train data segment.



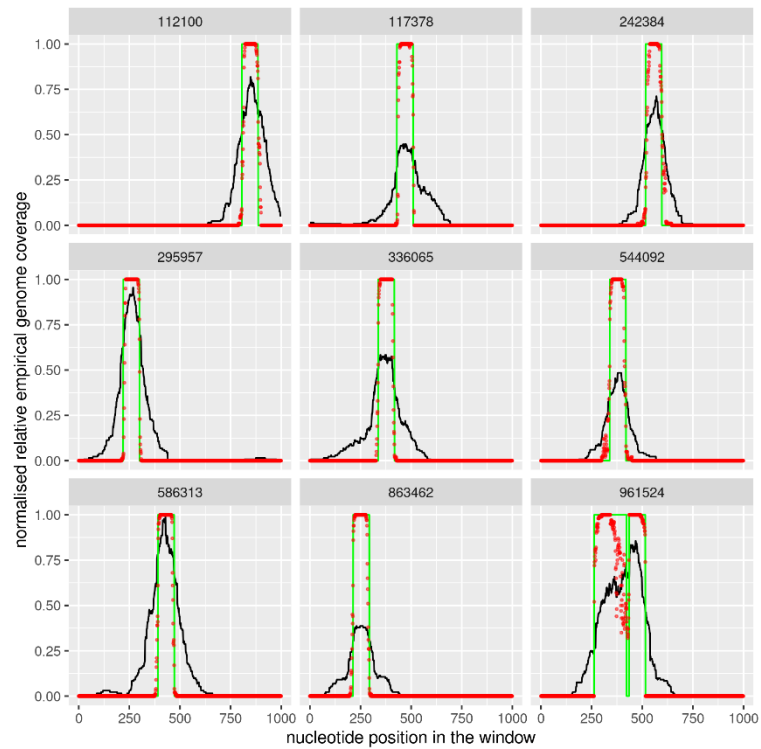
9 example plots (representative for the median percentile F1 score rank) to visualize the performance of **model 6** (1D CNN with batch normalization, reverse weighting, valid padding) using the 1000 base pair train data segment.



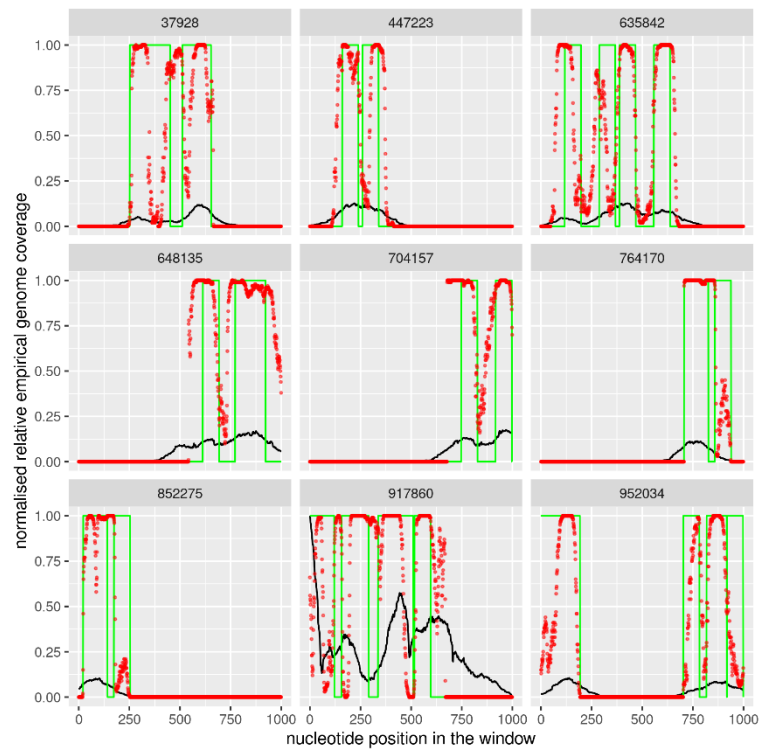
9 example plots (representative for the worst 1st percentile F1 score rank) to visualize the performance of **model 6** (1D CNN with batch normalization, reverse weighting, valid padding) using the 1000 base pair train data segment.



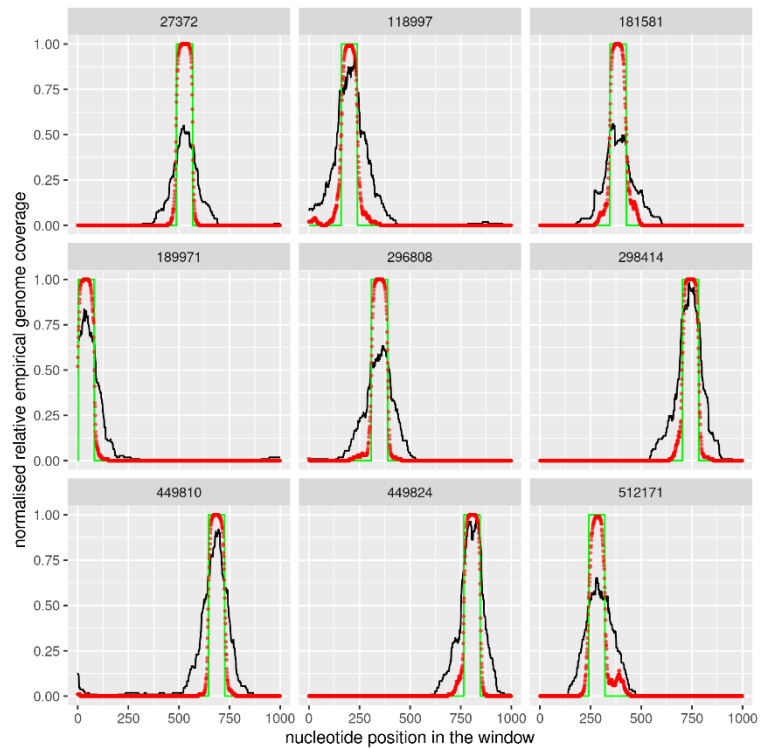
9 example plots (representative for the top 99th percentile F1 score rank) to visualize the performance of **model 7** (1D CNN with batch normalization, reverse weighting, same padding) using the 1000 base pair train data segment.



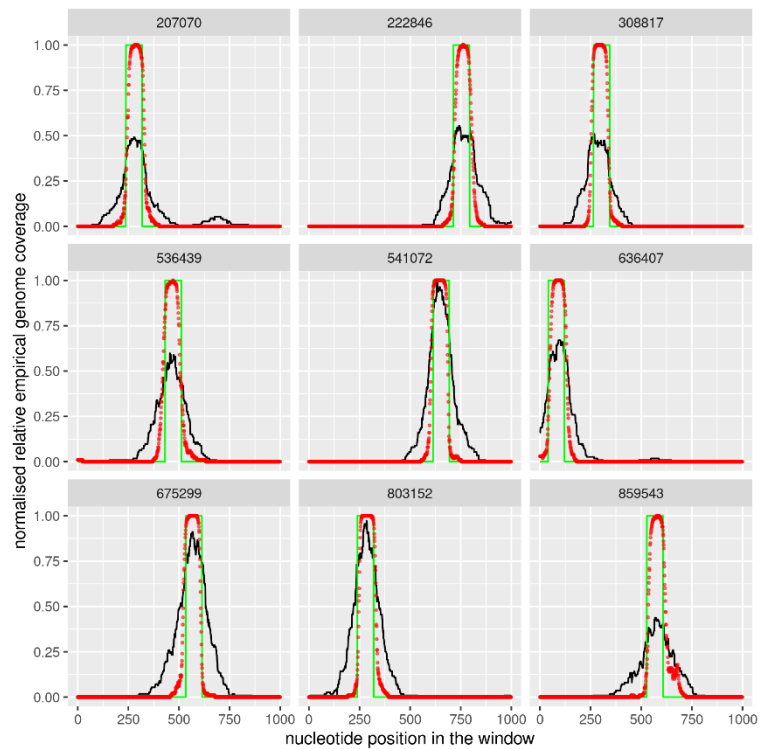
9 example plots (representative for the median percentile F1 score rank) to visualize the performance of **model 7** (1D CNN with batch normalization, reverse weighting, same padding) using the 1000 base pair train data segment.



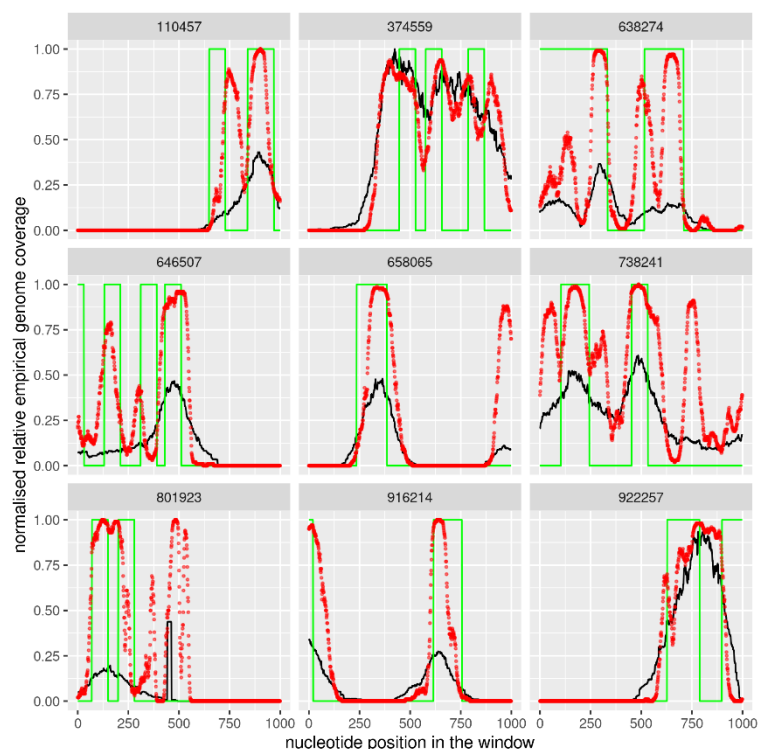
9 example plots (representative for the worst 1st percentile F1 score rank) to visualize the performance of **model 7** (1D CNN with batch normalization, reverse weighting, same padding) using the 1000 base pair train data segment.



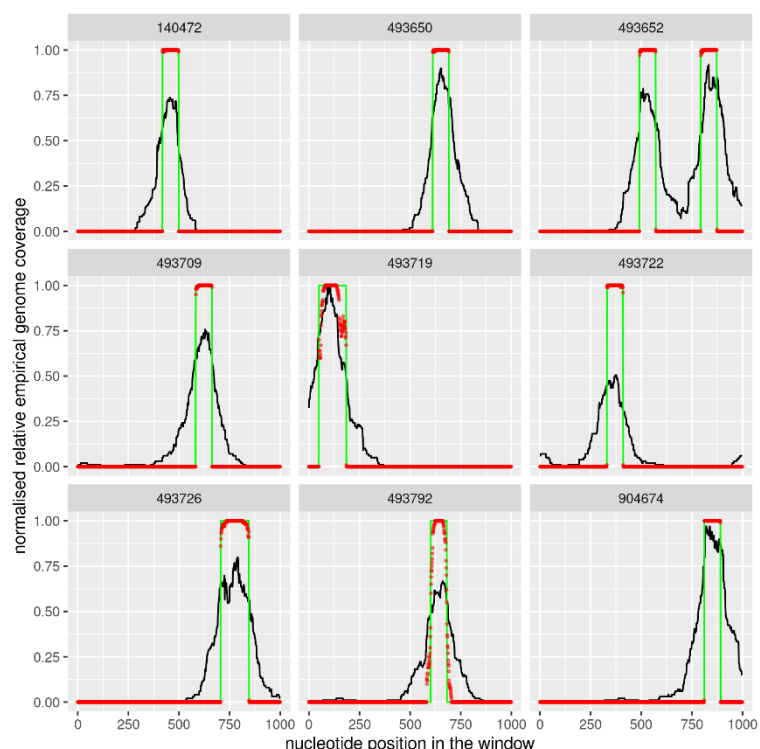
9 example plots (representative for the top 99th percentile F1 score rank) to visualize the performance of **model 8** (1D CNN with batch normalization, reverse weighting, causal padding, WITHOUT on-target input data) using the 1000 base pair train data segment.



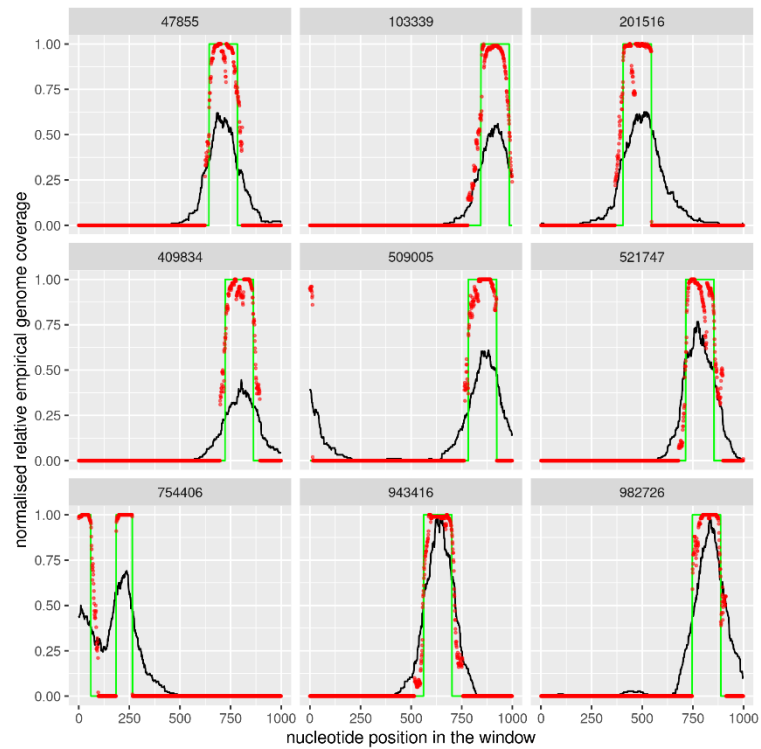
9 example plots (representative for the median percentile F1 score rank) to visualize the performance of **model 8** (1D CNN with batch normalization, reverse weighting, causal padding, WITHOUT on-target input data) using the 1000 base pair train data segment.



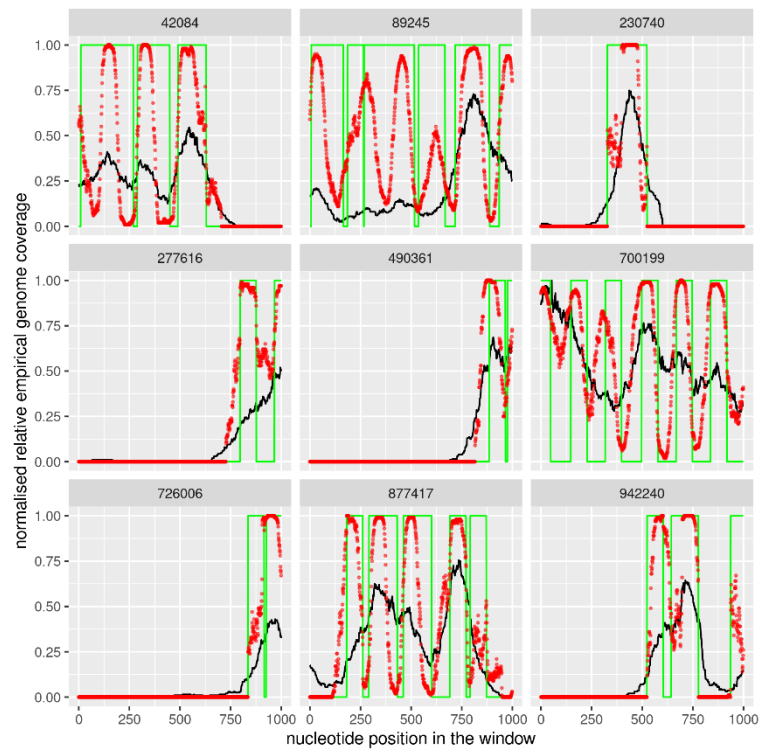
9 example plots (representative for the worst 1st percentile F1 score rank) to visualize the performance of **model 8** (1D CNN with batch normalization, reverse weighting, causal padding, WITHOUT on-target input data) using the 1000 base pair train data segment.



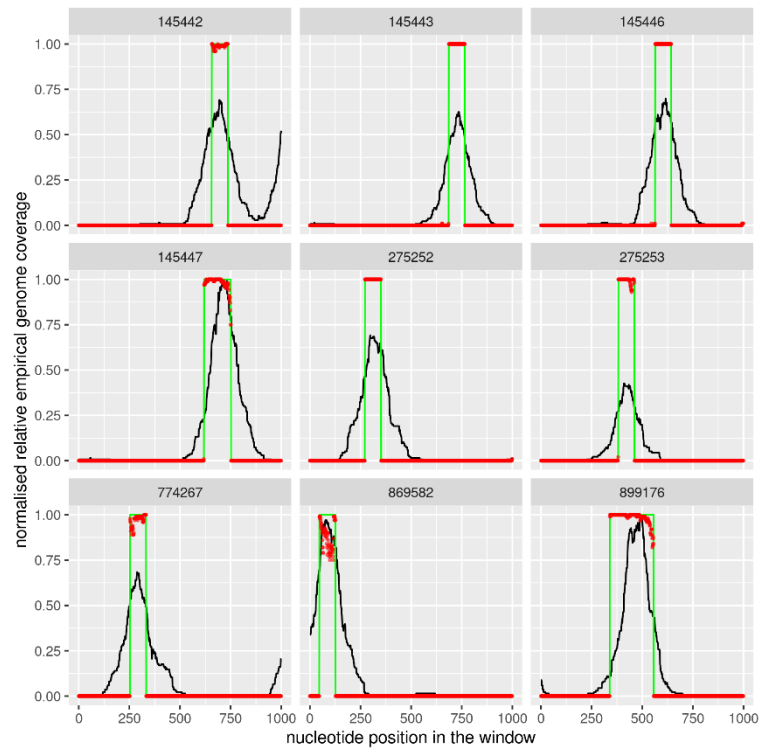
9 example plots (representative for the top 99th percentile F1 score rank) to visualize the performance of **model 9** (1D CNN with batch normalization, reverse weighting, causal padding, WITHOUT sequence information input data) using the 1000 base pair train data segment.



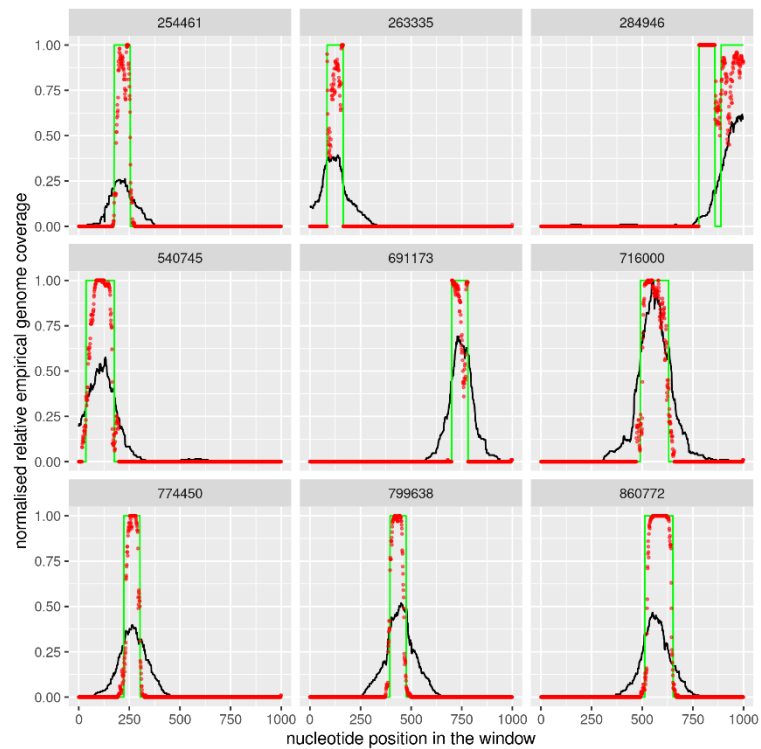
9 example plots (representative for the median percentile F1 score rank) to visualize the performance of **model 9** (1D CNN with batch normalization, reverse weighting, causal padding, WITHOUT sequence information input data) using the 1000 base pair train data segment.



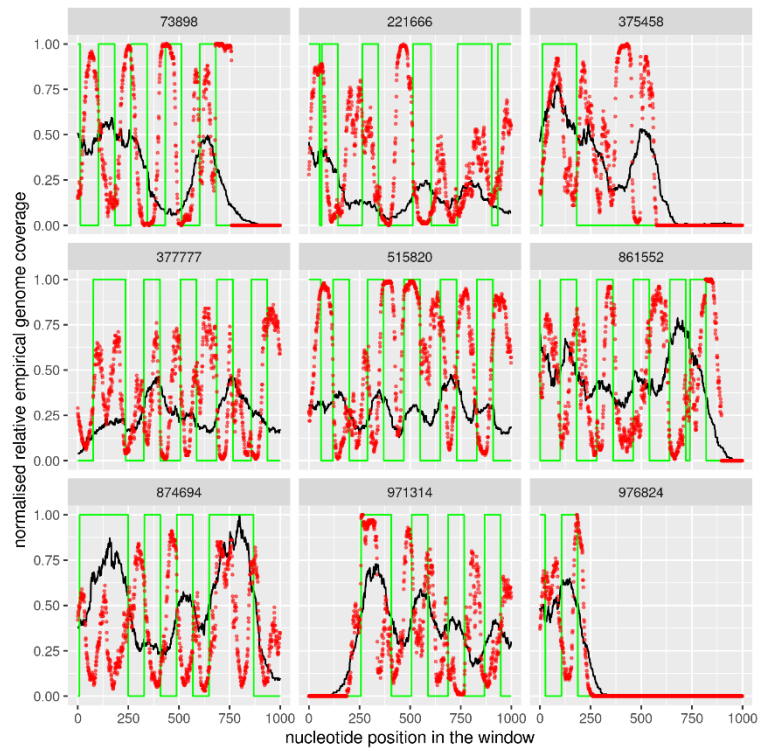
9 example plots (representative for the worst 1st percentile F1 score rank) to visualize the performance of **model 9** (1D CNN with batch normalization, reverse weighting, causal padding, WITHOUT sequence information input data) using the 1000 base pair train data segment.



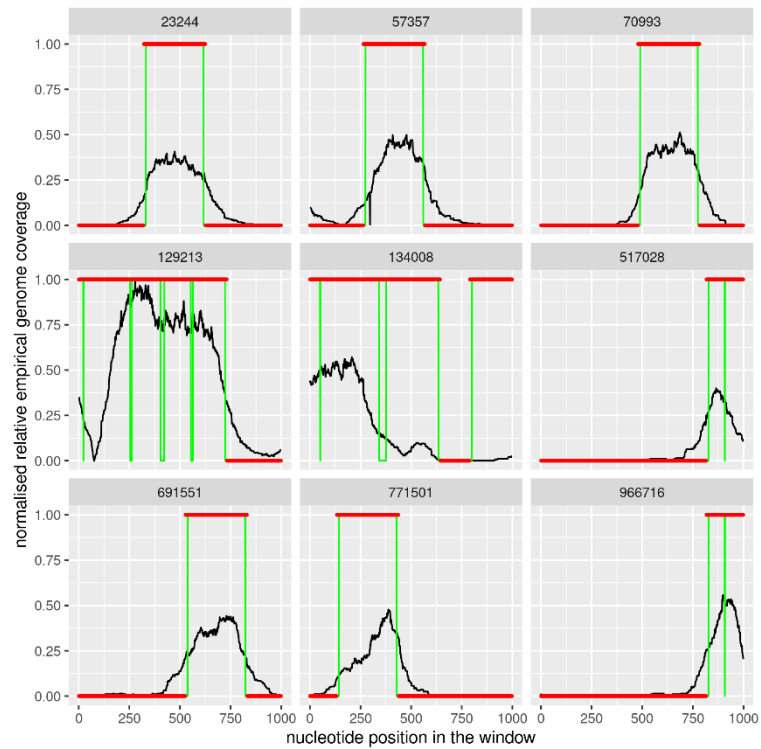
9 example plots (representative for the top 99th percentile F1 score rank) to visualize the performance of **model 10** (1D CNN with batch normalization, reverse weighting, causal padding, WITHOUT coverage depth information input data) using the 1000 base pair train data segment.



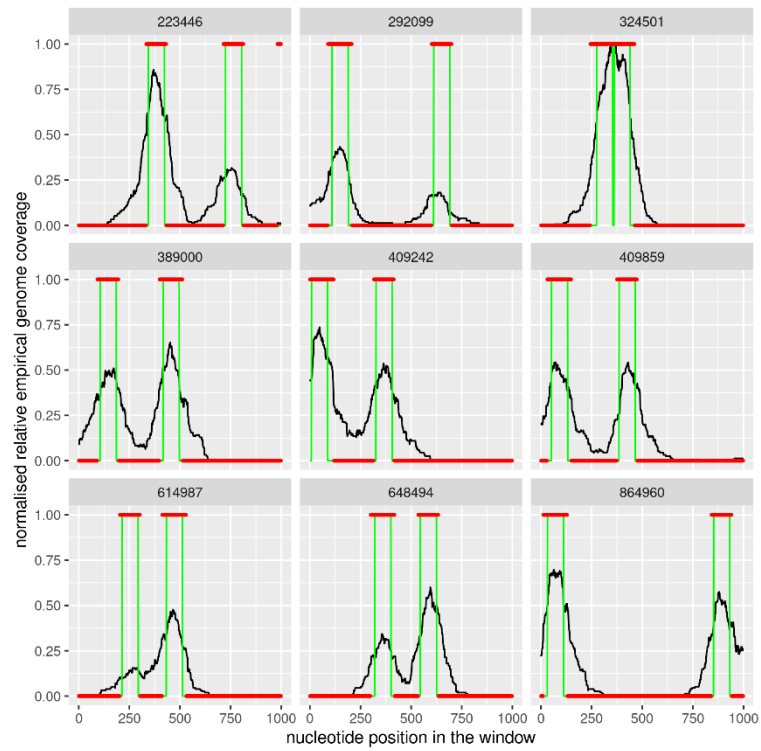
9 example plots (representative for the median percentile F1 score rank) to visualize the performance of **model 10** (1D CNN with batch normalization, reverse weighting, causal padding, WITHOUT coverage depth information input data) using the 1000 base pair train data segment.



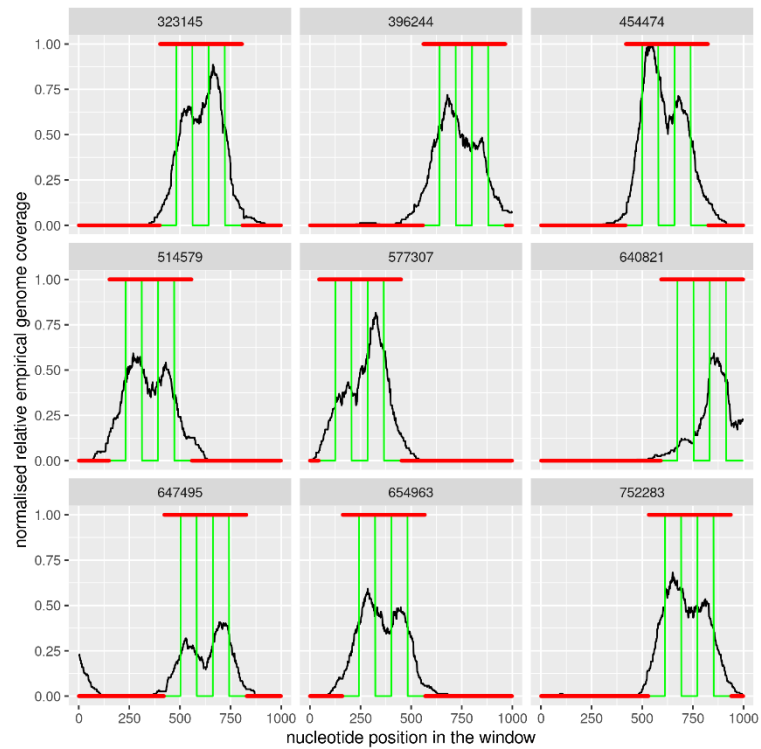
9 example plots (representative for the worst 1st percentile F1 score rank) to visualize the performance of **model 10** (1D CNN with batch normalization, reverse weighting, causal padding, WITHOUT coverage depth information input data) using the 1000 base pair train data segment.



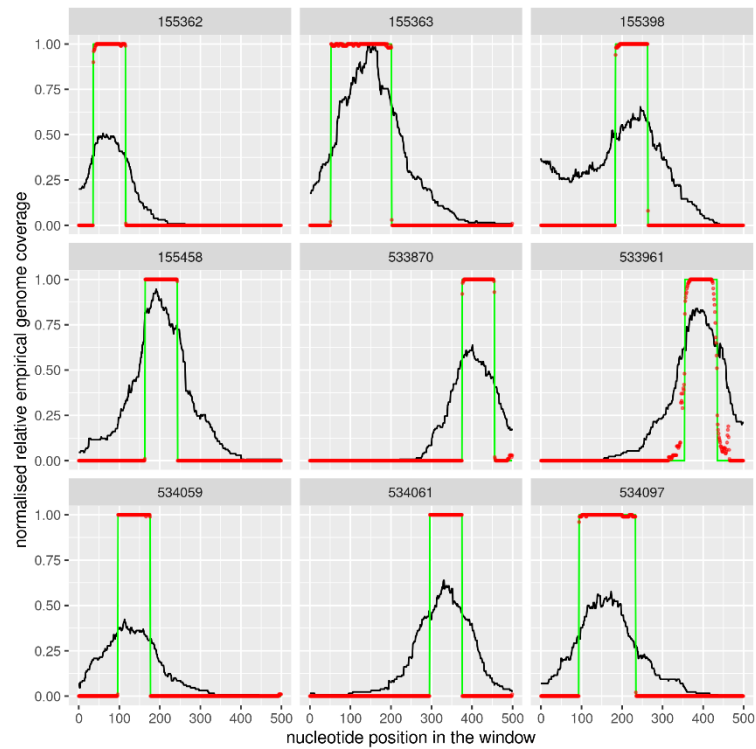
9 example plots (representative for the top 99th percentile F1 score rank) to visualize the performance of **model 11** (NOTE, this is not a NN prediction. In this baseline model the metrics were calculated between the truth and the on-target information used as predicted bait positions for the 1000 base pair window size data segment evaluation examples) using the 1000 base pair train data segment.



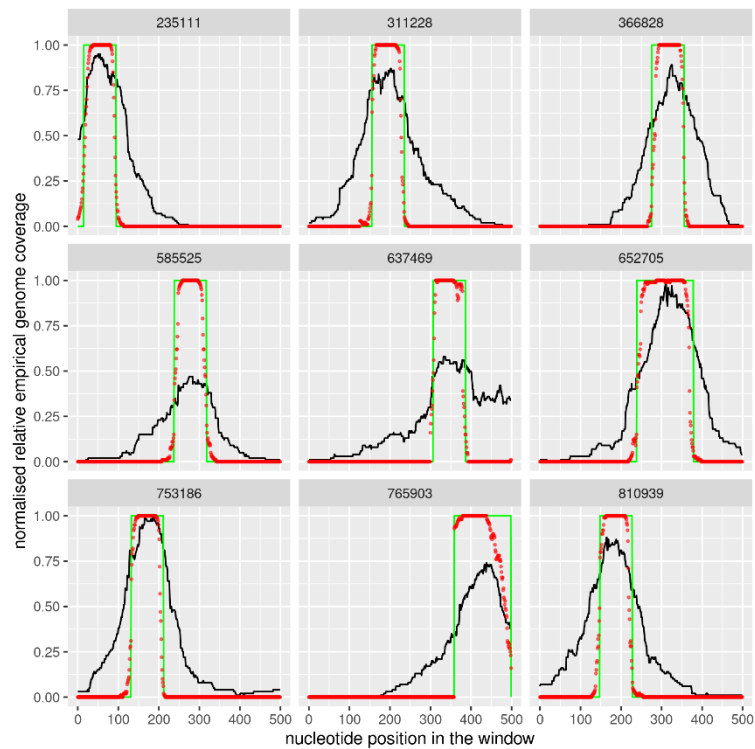
9 example plots (representative for the median percentile F1 score rank) to visualize the performance of **model 11** (NOTE, this is not a NN prediction. In this baseline model the metrics were calculated between the truth and the on-target information used as predicted bait positions for the 1000 base pair window size data segment evaluation examples) using the 1000 base pair train data segment.



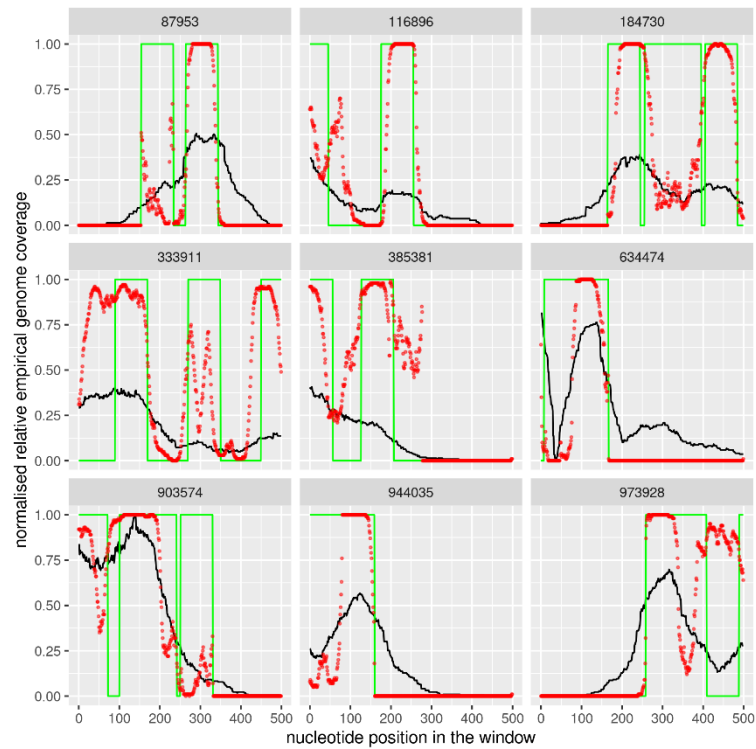
9 example plots (representative for the worst 1st percentile F1 score rank) to visualize the performance of **model 11** (NOTE, this is not a NN prediction. In this baseline model the metrics were calculated between the truth and the on-target information used as predicted bait positions for the 1000 base pair window size data segment evaluation examples) using the 1000 base pair train data segment.



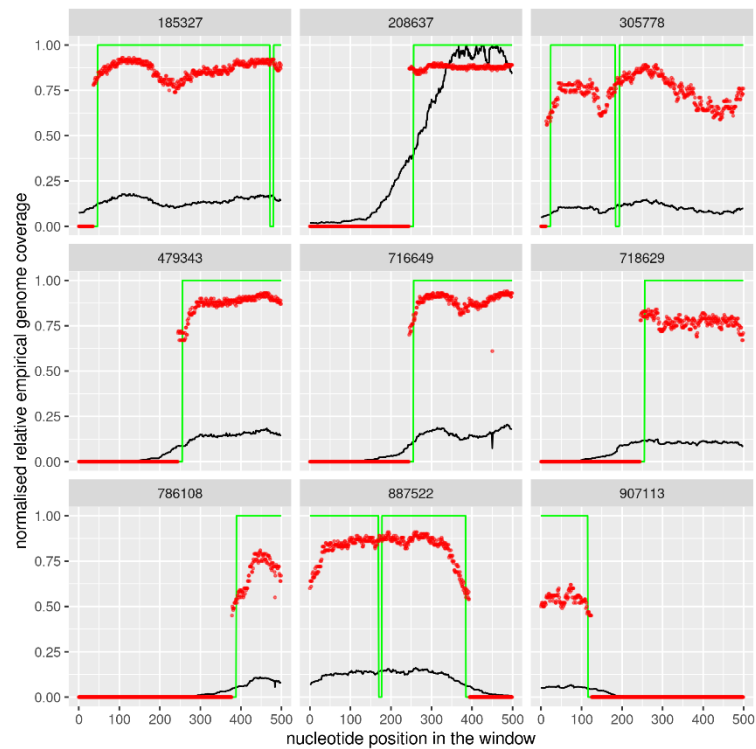
9 example plots (representative for the top 99th percentile F1 score rank) to visualize the performance of **model 1**(1D CNN with batch normalization, reverse weighting, causal padding) using the 500 base pair train data segment.



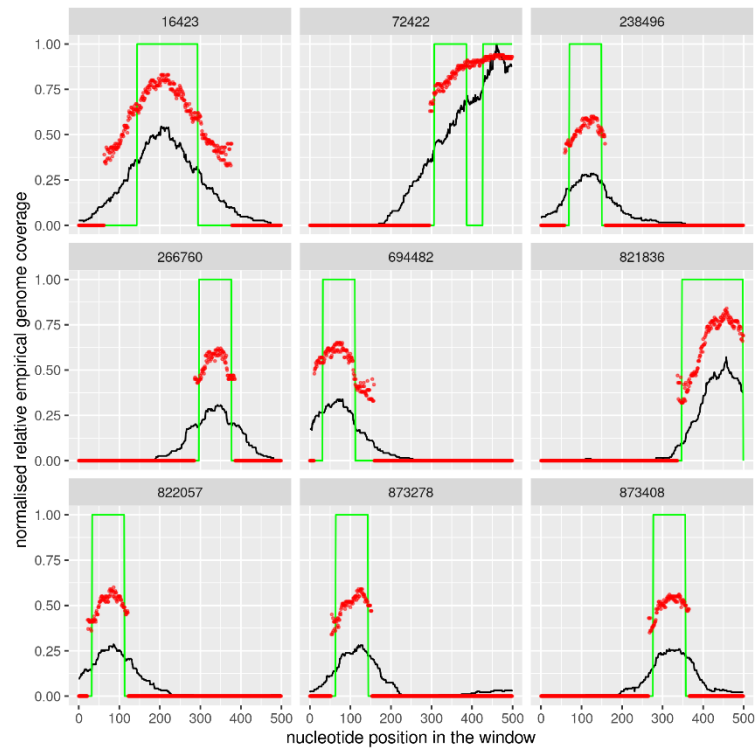
9 example plots (representative for the median percentile F1 score rank) to visualize the performance of **model 1**(1D CNN with batch normalization, reverse weighting, causal padding) using the 500 base pair train data segment.



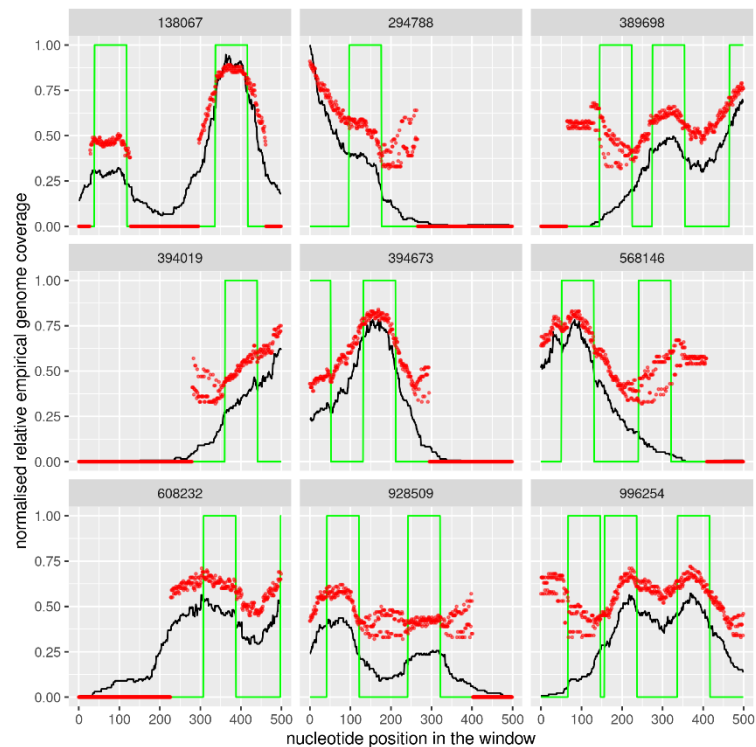
9 example plots (representative for the worst 1st percentile F1 score rank) to visualize the performance of **model 1** (1D CNN with batch normalization, reverse weighting, causal padding) using the 500 base pair train data segment.



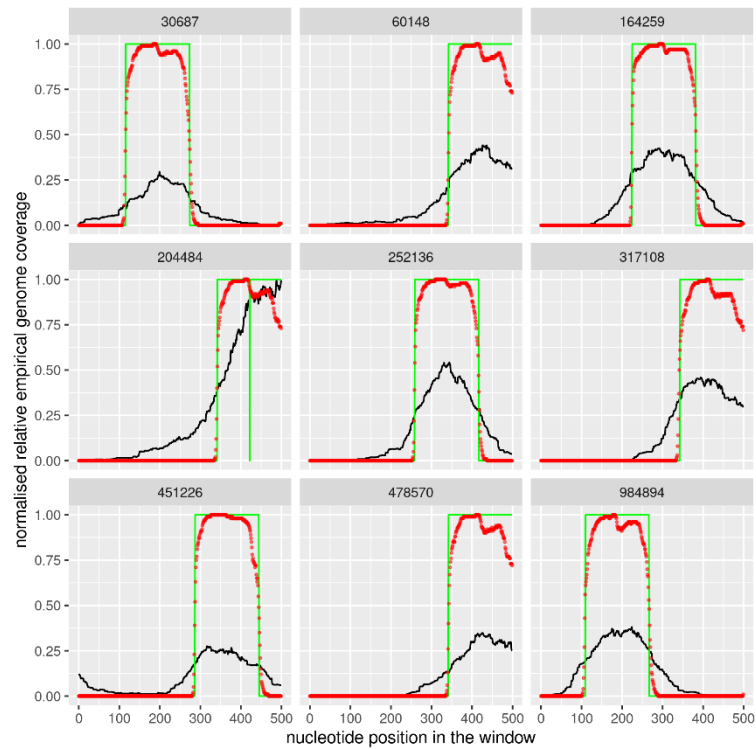
9 example plots (representative for the top 99th percentile F1 score rank) to visualize the performance of **model 2** (Dense NN with batch normalization, reverse weighting) using the 500 base pair train data segment.



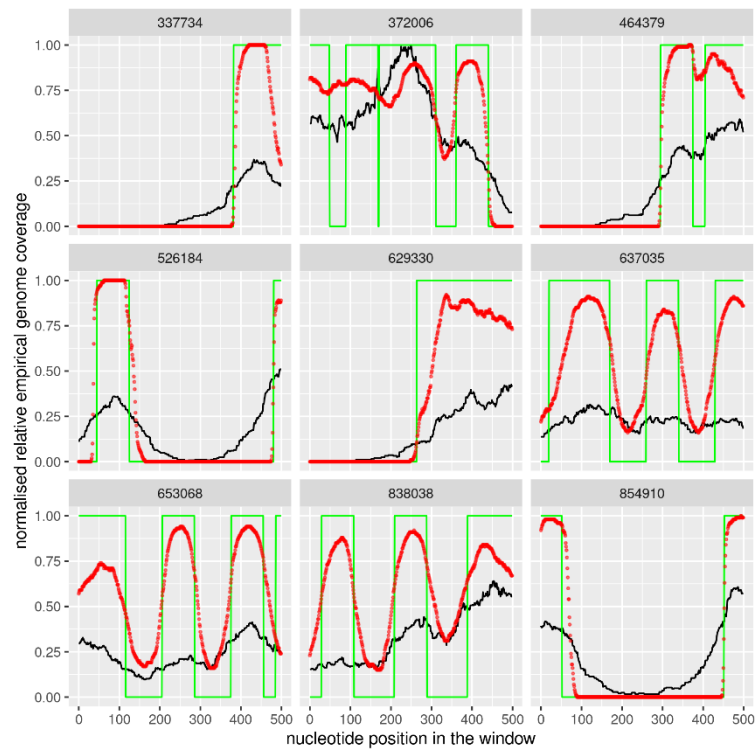
9 example plots (representative for the median percentile F1 score rank) to visualize the performance of **model 2** (Dense NN with batch normalization, reverse weighting) using the 500 base pair train data segment.



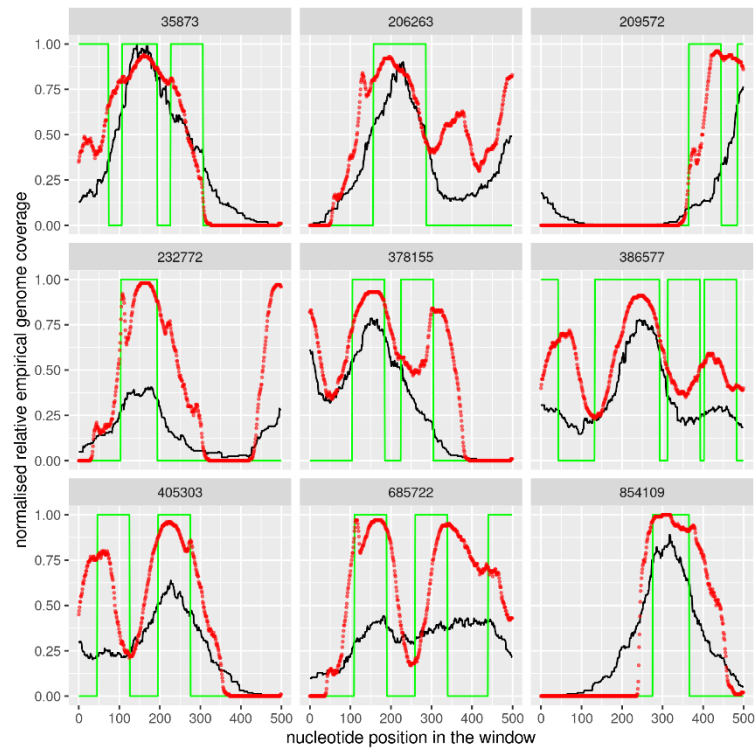
9 example plots (representative for the worst 1st percentile F1 score rank) to visualize the performance of **model 2** (Dense NN with batch normalization, reverse weighting) using the 500 base pair train data segment.



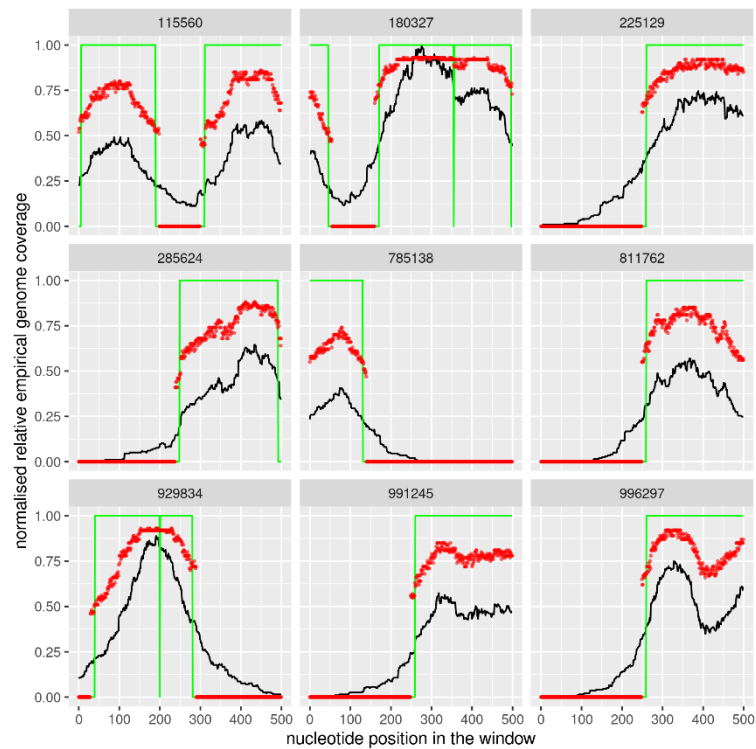
9 example plots (representative for the top 99th percentile F1 score rank) to visualize the performance of **model 3** (1D CNN with reverse weighting, causal padding) using the 500 base pair train data segment.



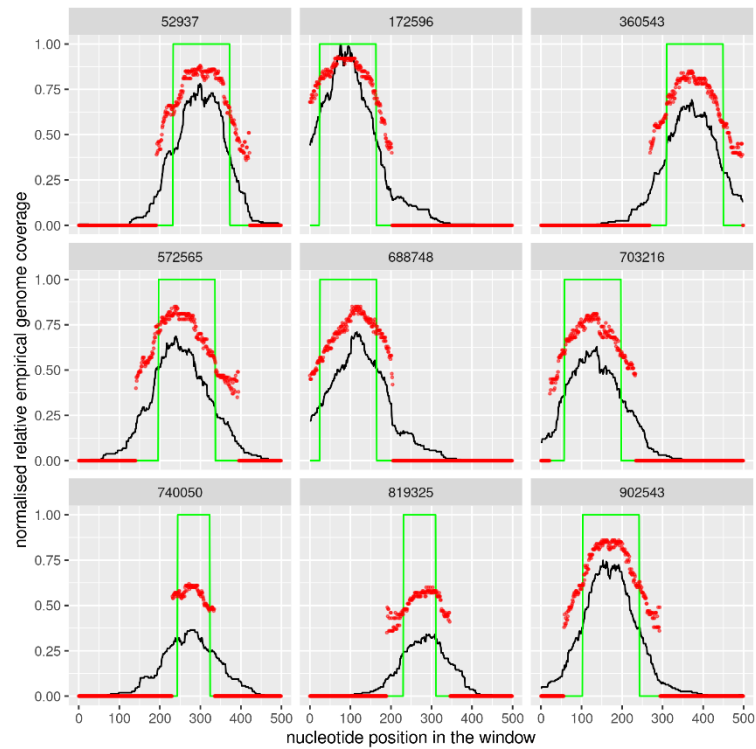
9 example plots (representative for the median percentile F1 score rank) to visualize the performance of **model 3** (1D CNN with reverse weighting, causal padding) using the 500 base pair train data segment.



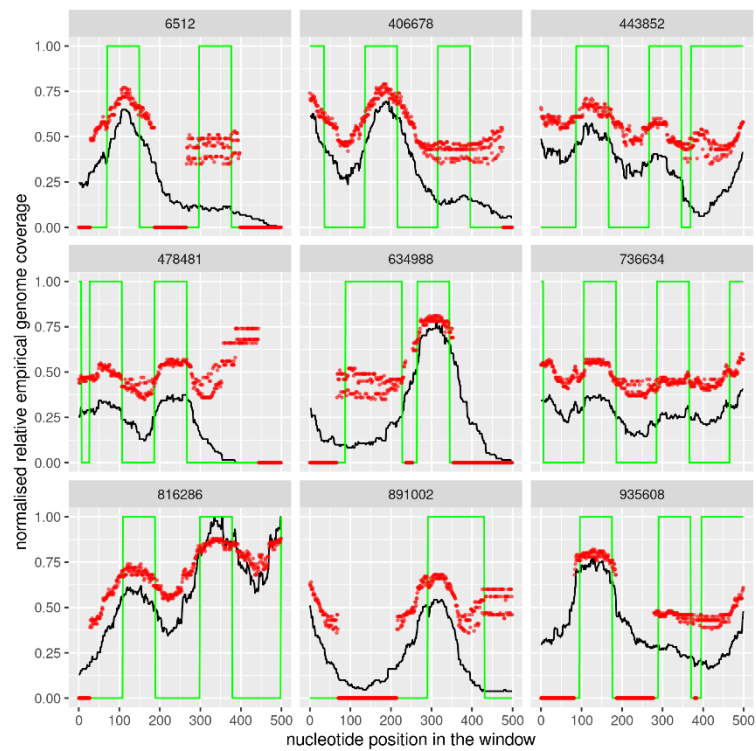
9 example plots (representative for the worst 1st percentile F1 score rank) to visualize the performance of **model 3** (1D CNN with reverse weighting, causal padding) using the 500 base pair train data segment.



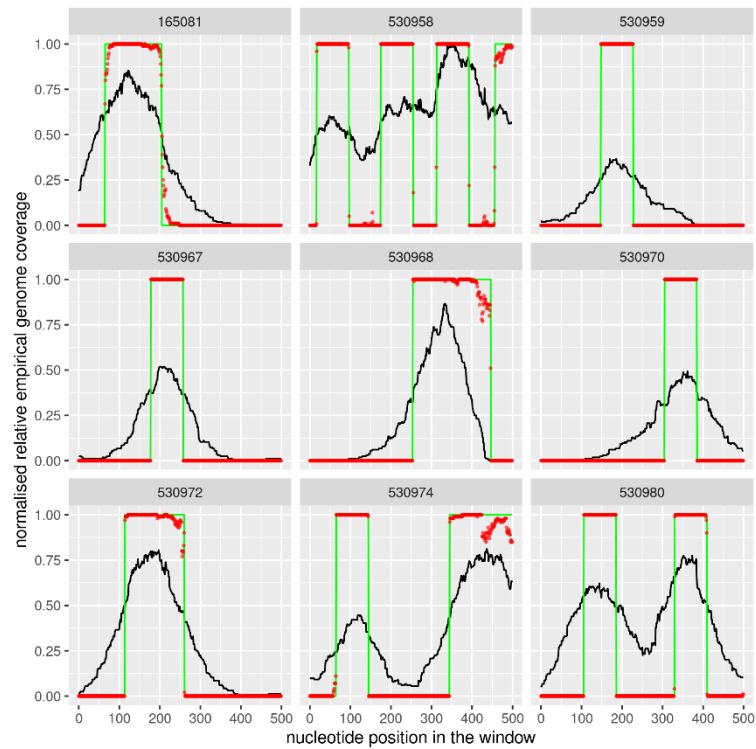
9 example plots (representative for the top 99th percentile F1 score rank) to visualize the performance of **model 4** (Dense NN with reverse weighting) using the 500 base pair train data segment.



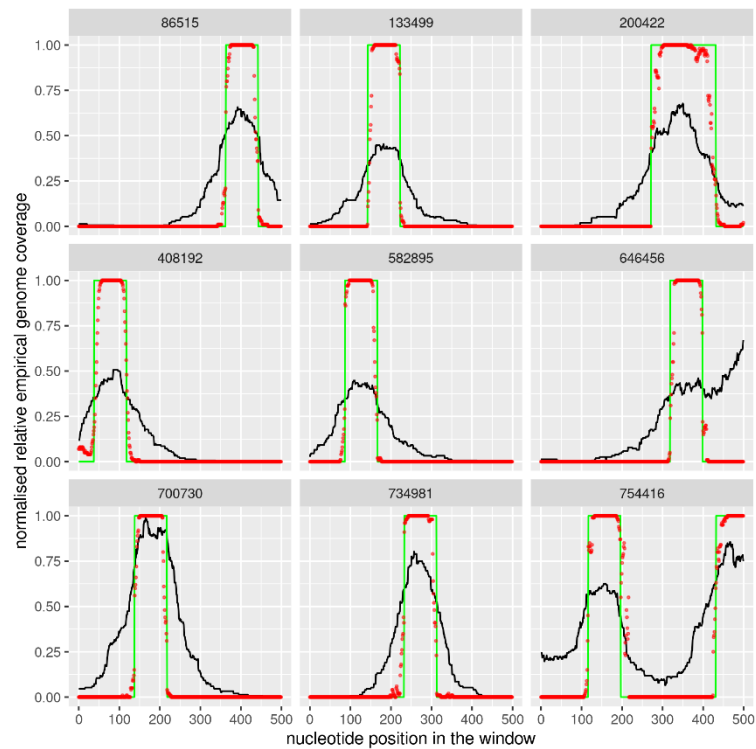
9 example plots (representative for the median percentile F1 score rank) to visualize the performance of **model 4** (Dense NN with reverse weighting) using the 500 base pair train data segment.



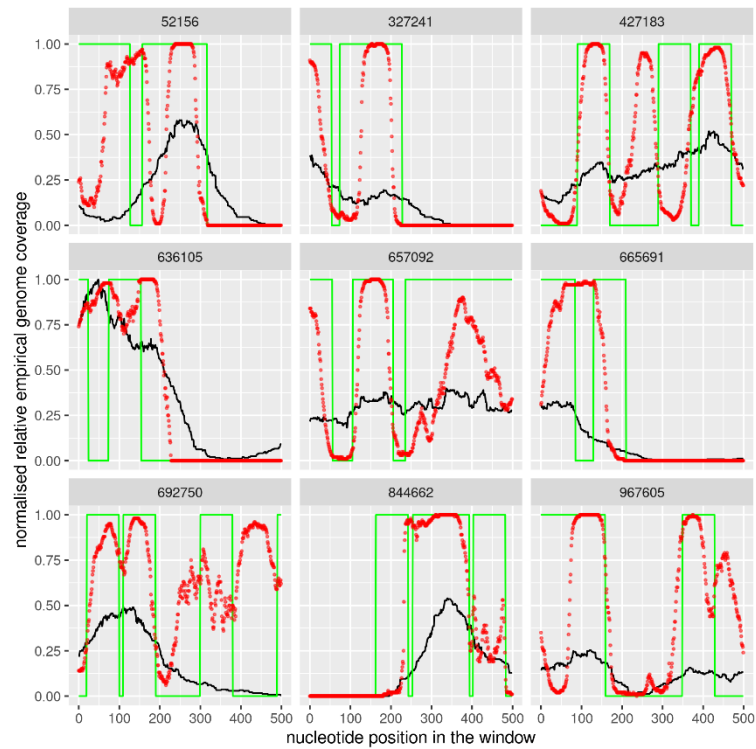
9 example plots (representative for the worst 1st percentile F1 score rank) to visualize the performance of **model 4** (Dense NN with reverse weighting) using the 500 base pair train data segment.



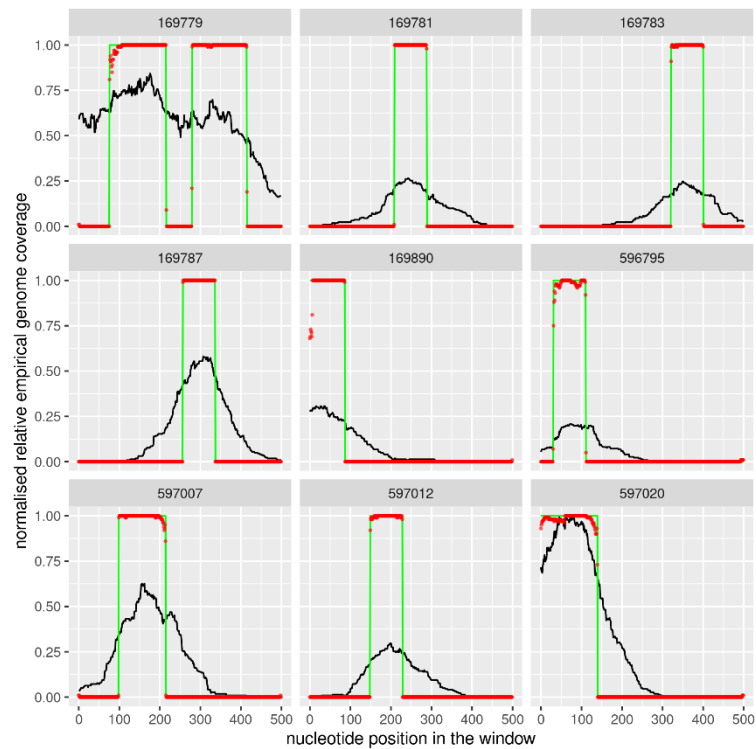
9 example plots (representative for the top 99th percentile F1 score rank) to visualize the performance of **model 5** (1D CNN with batch normalization, causal padding) using the 500 base pair train data segment.



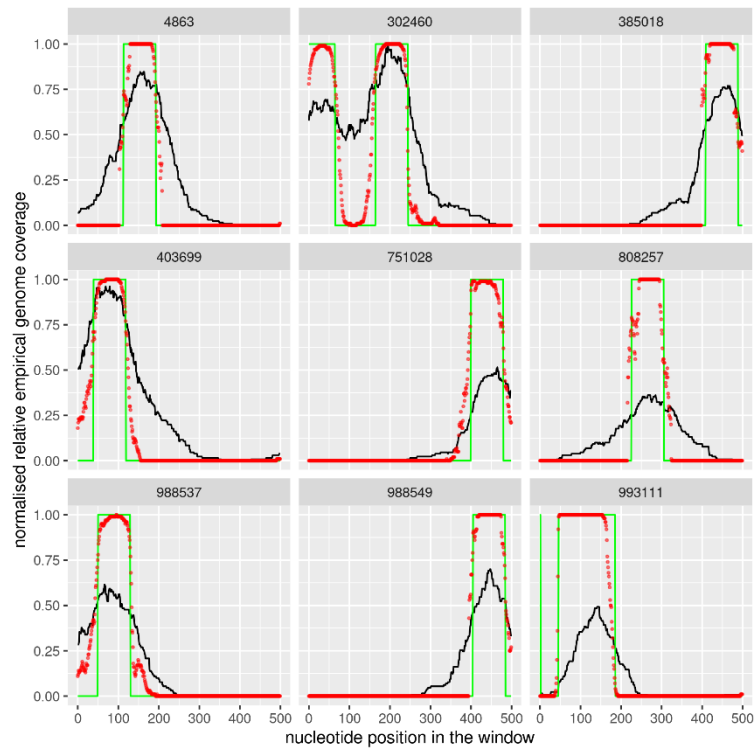
9 example plots (representative for the median percentile F1 score rank) to visualize the performance of **model 5** (1D CNN with batch normalization, causal padding) using the 500 base pair train data segment.



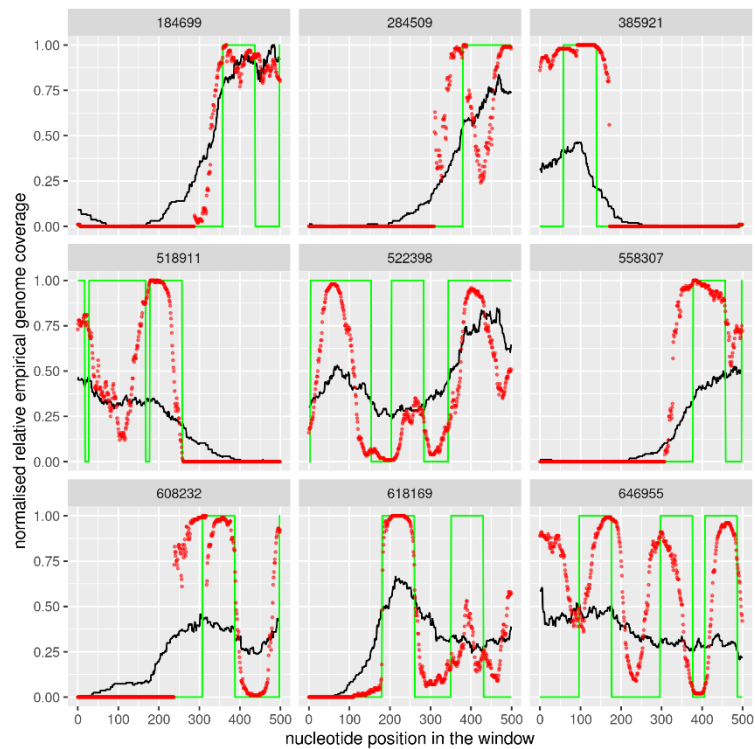
9 example plots (representative for the worst 1st percentile F1 score rank) to visualize the performance of **model 5** (1D CNN with batch normalization, causal padding) using the 500 base pair train data segment.



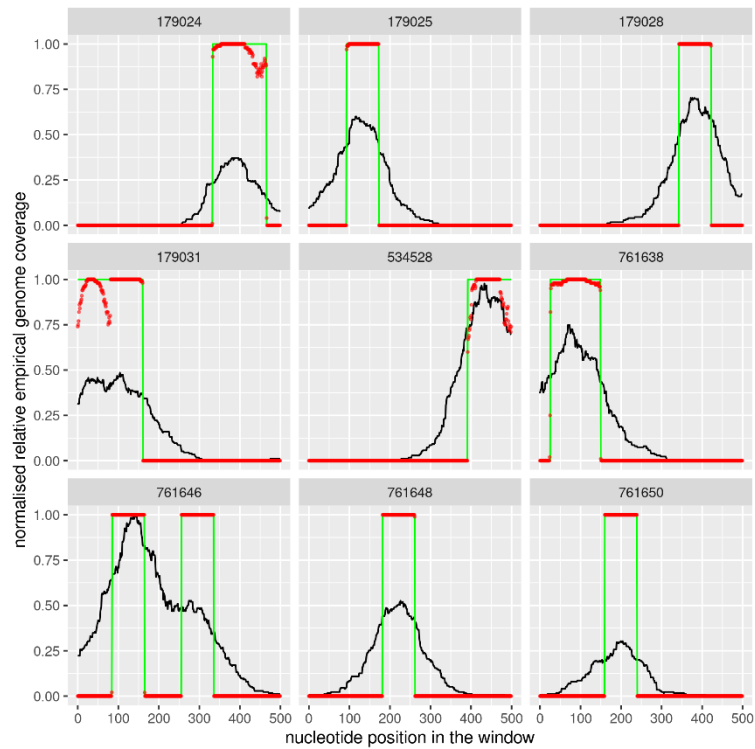
9 example plots (representative for the top 99th percentile F1 score rank) to visualize the performance of **model 6** (1D CNN with batch normalization, reverse weighting, valid padding) using the 500 base pair train data segment.



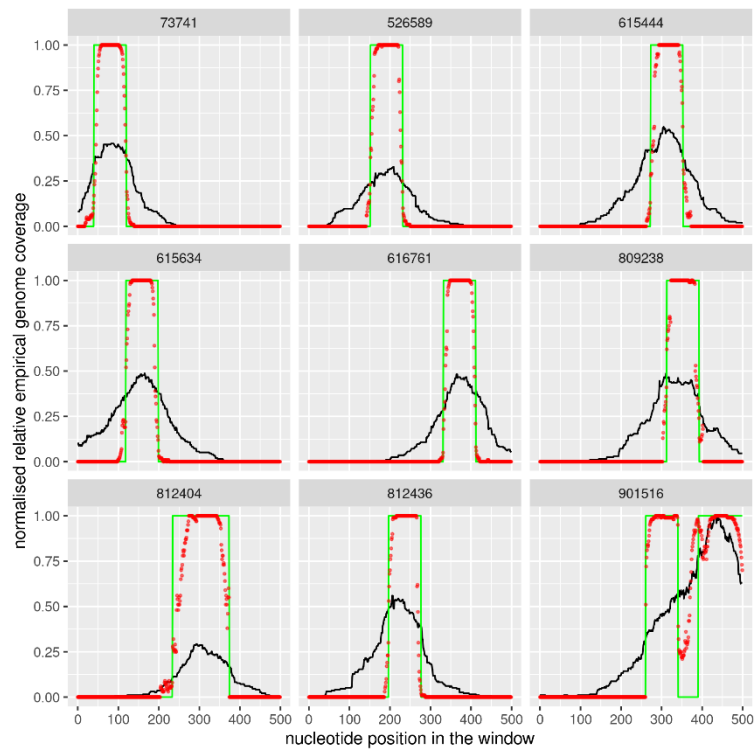
9 example plots (representative for the median percentile F1 score rank) to visualize the performance of **model 6** (1D CNN with batch normalization, reverse weighting, valid padding) using the 500 base pair train data segment.



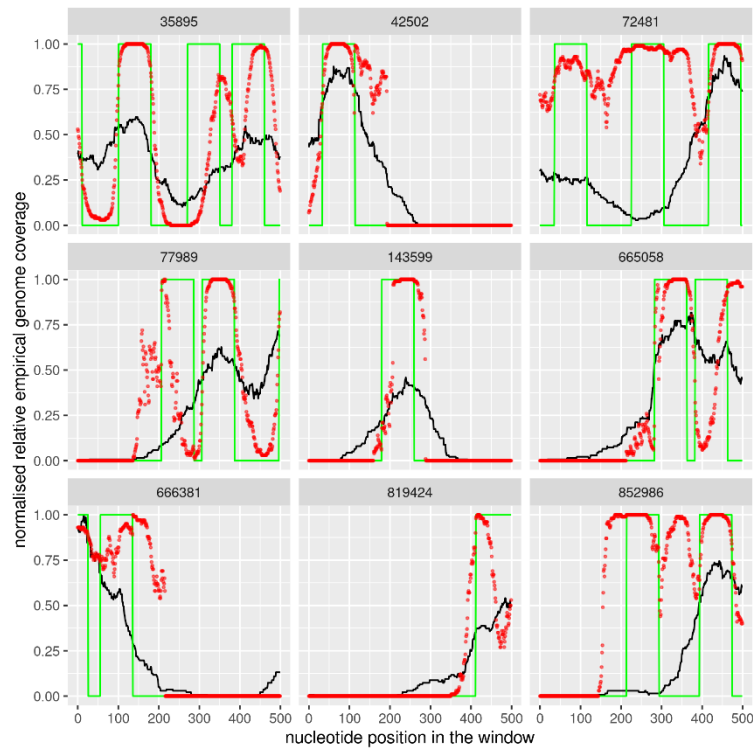
9 example plots (representative for the worst 1st percentile F1 score rank) to visualize the performance of **model 6** (1D CNN with batch normalization, reverse weighting, valid padding) using the 500 base pair train data segment.



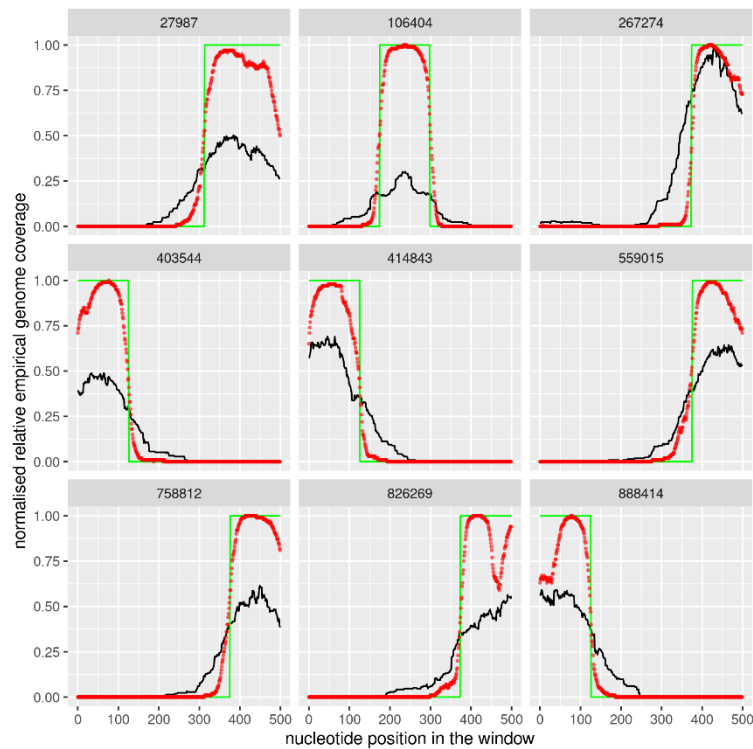
9 example plots (representative for the top 99th percentile F1 score rank) to visualize the performance of **model 7** (1D CNN with batch normalization, reverse weighting, same padding) using the 500 base pair train data segment.



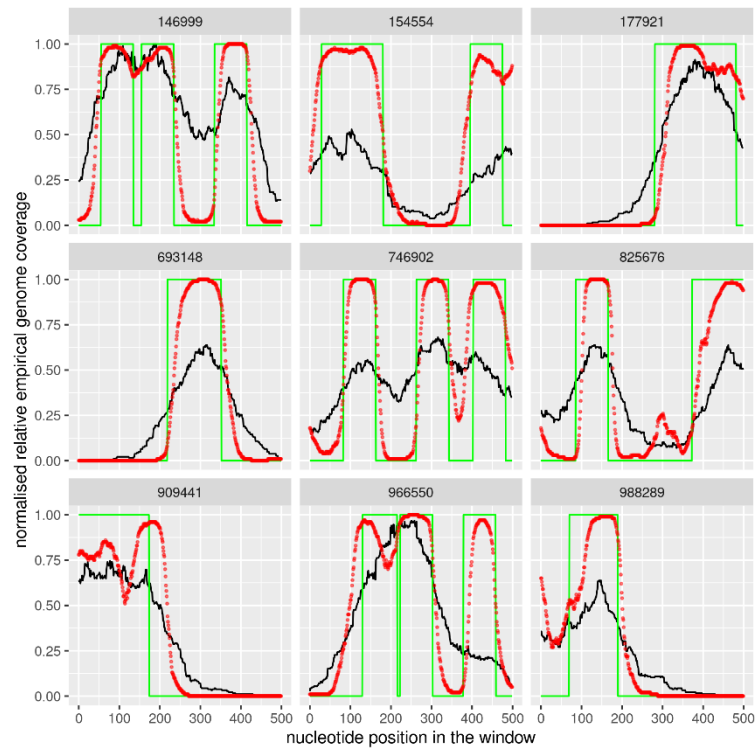
9 example plots (representative for the median percentile F1 score rank) to visualize the performance of **model 7** (1D CNN with batch normalization, reverse weighting, same padding) using the 500 base pair train data segment.



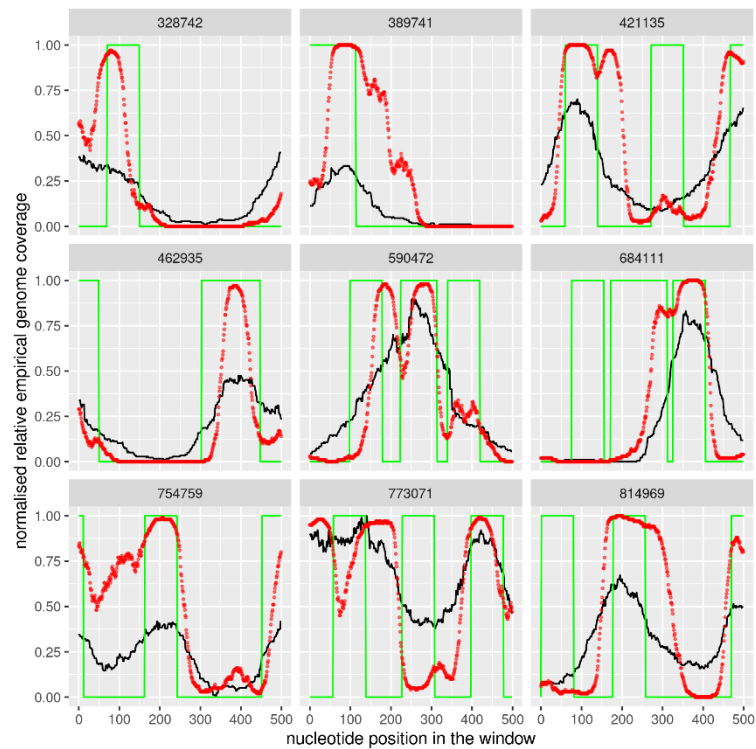
9 example plots (representative for the worst 1st percentile F1 score rank) to visualize the performance of **model 7** (1D CNN with batch normalization, reverse weighting, same padding) using the 500 base pair train data segment.



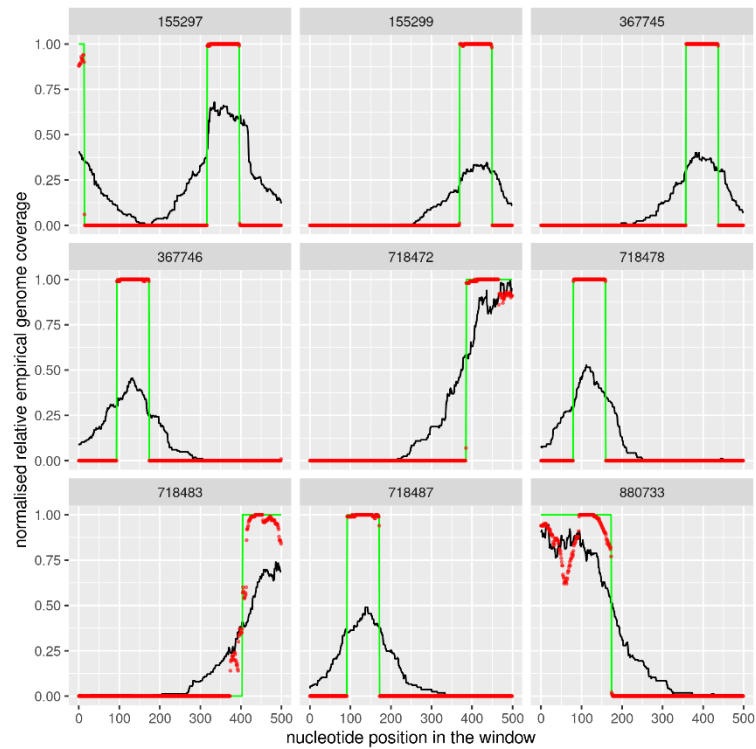
9 example plots (representative for the top 99th percentile F1 score rank) to visualize the performance of **model 8** (1D CNN with batch normalization, reverse weighting, causal padding, WITHOUT on-target input data) using the 500 base pair train data segment.



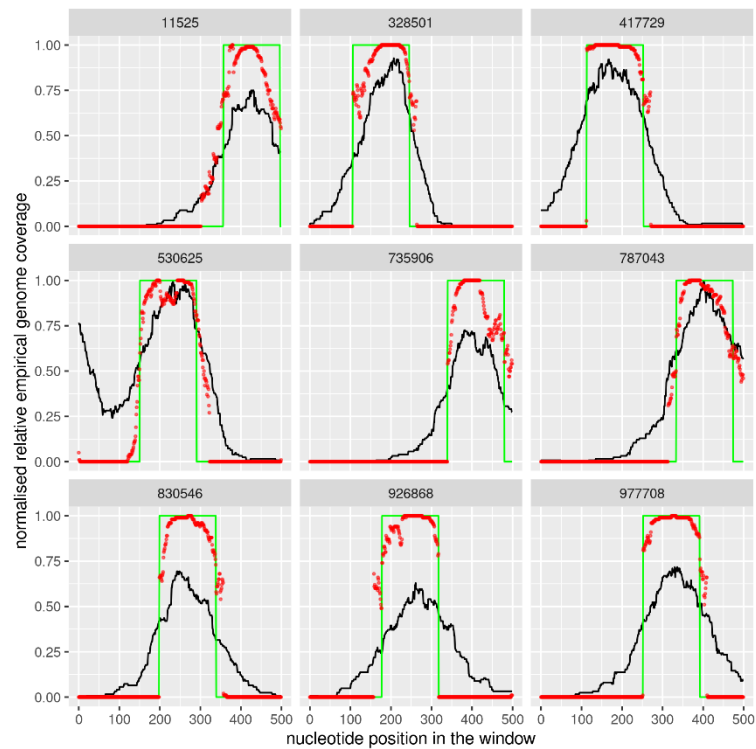
9 example plots (representative for the median percentile F1 score rank) to visualize the performance of **model 8** (1D CNN with batch normalization, reverse weighting, causal padding, WITHOUT on-target input data) using the 500 base pair train data segment.



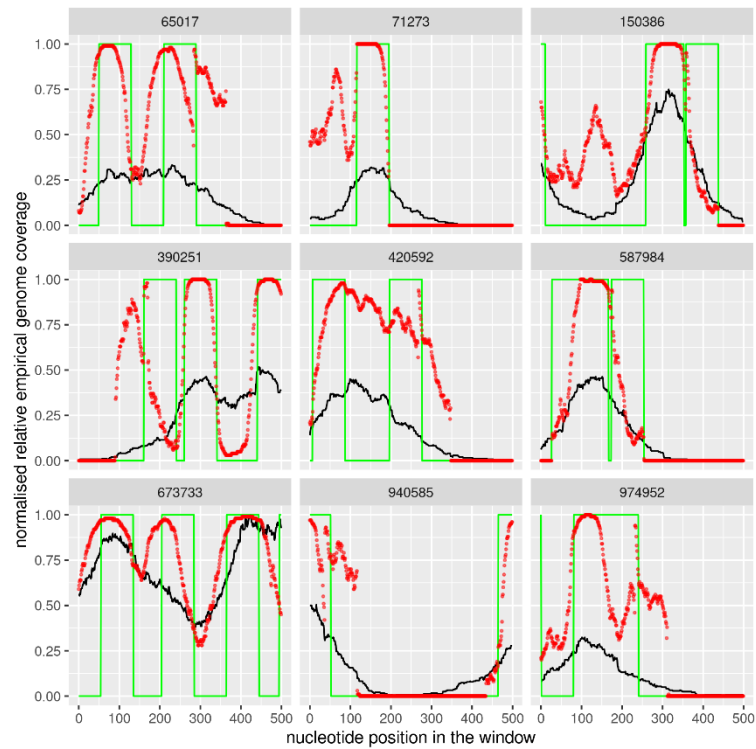
9 example plots (representative for the worst 1st percentile F1 score rank) to visualize the performance of **model 8** (1D CNN with batch normalization, reverse weighting, causal padding, WITHOUT on-target input data) using the 500 base pair train data segment.



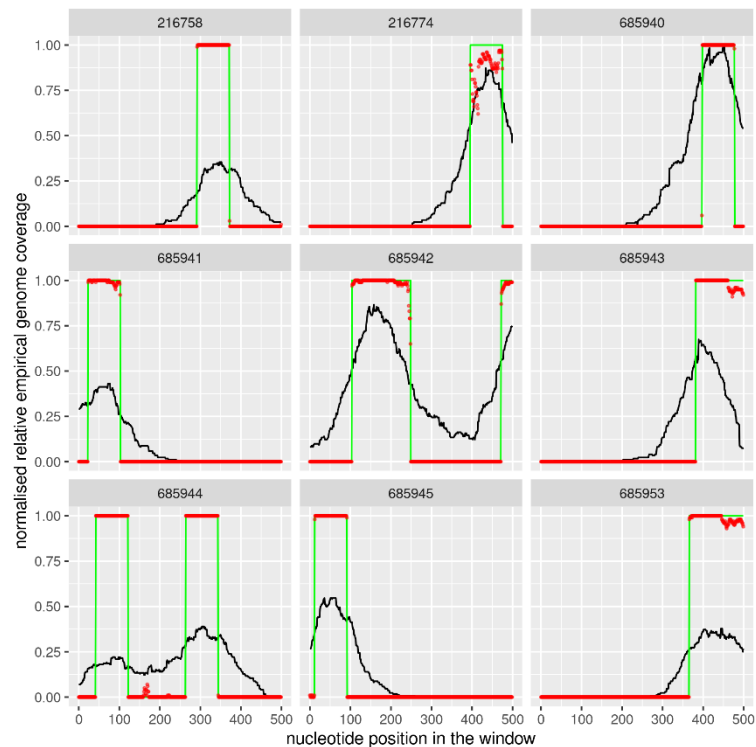
9 example plots (representative for the top 99th percentile F1 score rank) to visualize the performance of **model 9** (1D CNN with batch normalization, reverse weighting, causal padding, WITHOUT sequence information input data) using the 500 base pair train data segment.



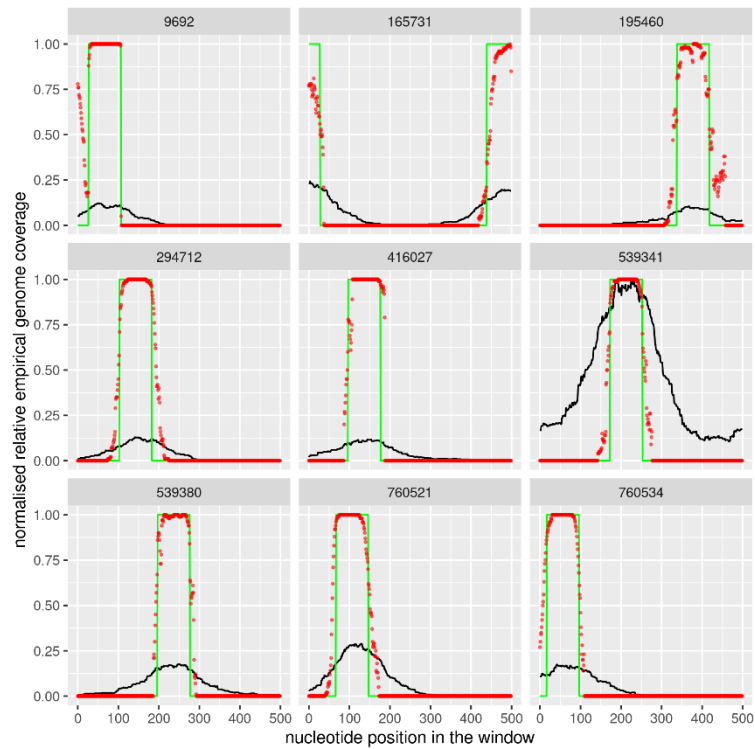
9 example plots (representative for the median percentile F1 score rank) to visualize the performance of **model 9** (1D CNN with batch normalization, reverse weighting, causal padding, WITHOUT sequence information input data) using the 500 base pair train data segment.



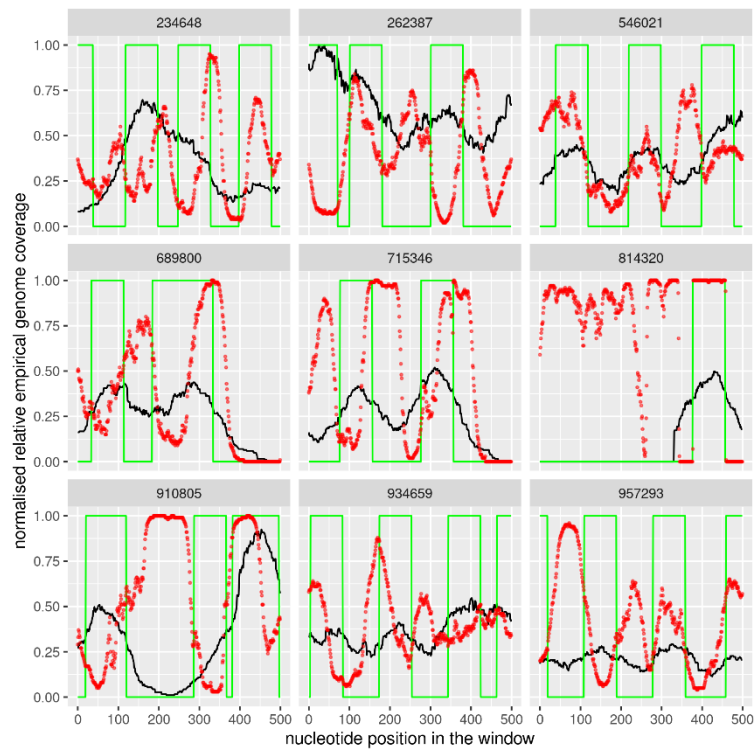
9 example plots (representative for the worst 1st percentile F1 score rank) to visualize the performance of **model 9** (1D CNN with batch normalization, reverse weighting, causal padding, WITHOUT sequence information input data) using the 500 base pair train data segment.



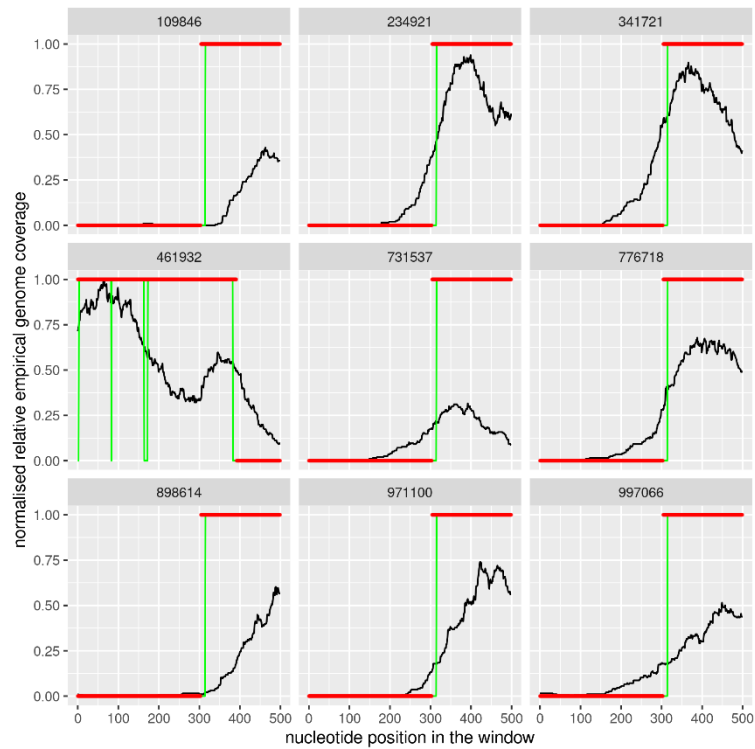
9 example plots (representative for the top 99th percentile F1 score rank) to visualize the performance of **model 10** (1D CNN with batch normalization, reverse weighting, causal padding, WITHOUT coverage depth information input data) using the 500 base pair train data segment.



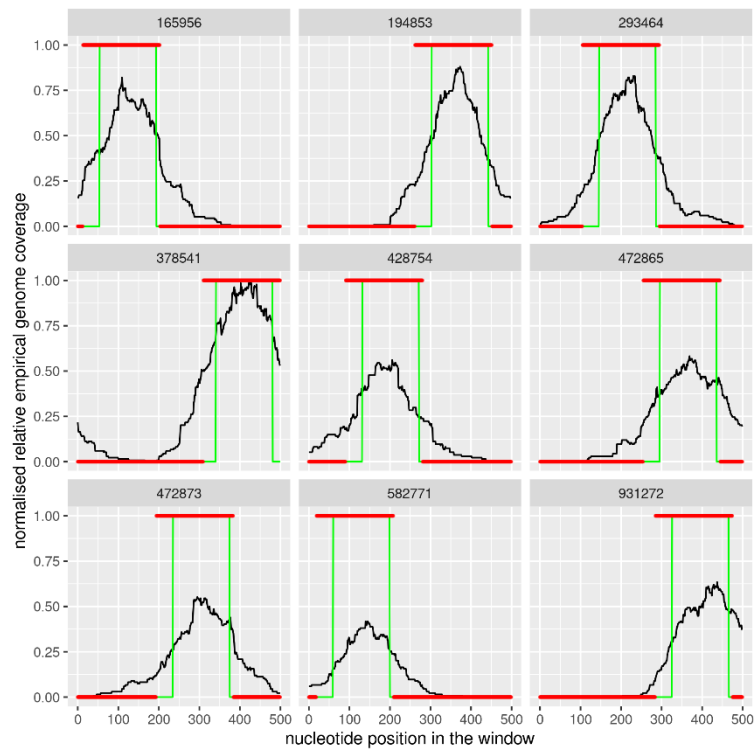
9 example plots (representative for the median percentile F1 score rank) to visualize the performance of **model 10** (1D CNN with batch normalization, reverse weighting, causal padding, WITHOUT coverage depth information input data) using the 500 base pair train data segment.



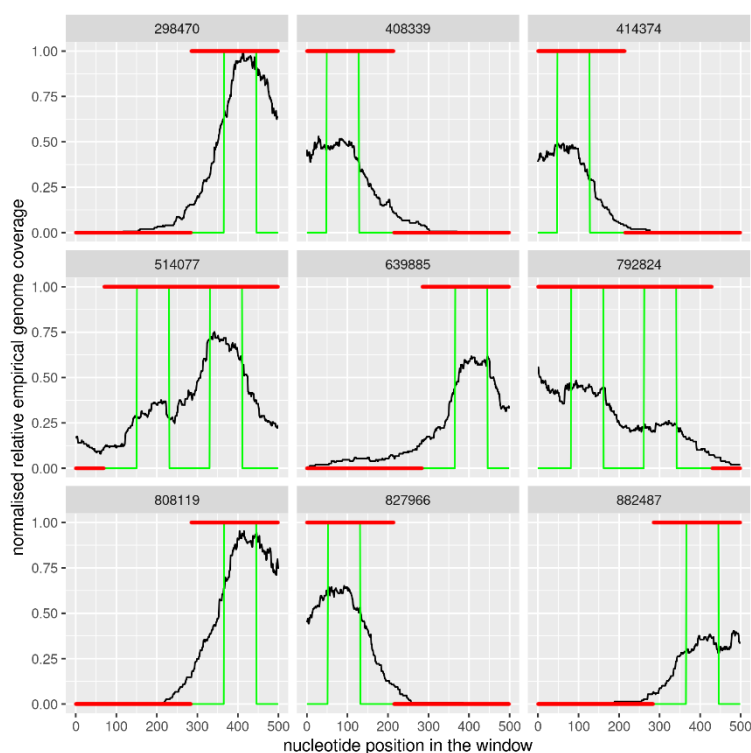
9 example plots (representative for the worst 1st percentile F1 score rank) to visualize the performance of **model 10** (1D CNN with batch normalization, reverse weighting, causal padding, WITHOUT coverage depth information input data) using the 500 base pair train data segment.



9 example plots (representative for the top 99th percentile F1 score rank) to visualize the performance of **model 11** (NOTE, this is not a NN prediction. In this baseline model the metrics were calculated between the truth and the on-target information used as predicted bait positions for the 1000 base pair window size data segment evaluation examples) using the 500 base pair train data segment.



9 example plots (representative for the median percentile F1 score rank) to visualize the performance of **model 11** (NOTE, this is not a NN prediction. In this baseline model the metrics were calculated between the truth and the on-target information used as predicted bait positions for the 1000 base pair window size data segment evaluation examples) using the 500 base pair train data segment.



9 example plots (representative for the worst 1st percentile F1 score rank) to visualize the performance of **model 11** (NOTE, this is not a NN prediction. In this baseline model the metrics were calculated between the truth and the on-target information used as predicted bait positions for the 1000 base pair window size data segment evaluation examples) using the 500 base pair train data segment.