LOW DATASET

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| MODEL | TRAIN\_R2 | TEST\_R2 | TRAIN\_MSE | TEST\_MSE |
| LINEAR | 0.97 | 0.98 | 1.32 | 0.85 |
| POLYNOMIAL | 1.0 | 0.67 | 1.00 | 8.07 |
| POLYNOMIAL WITH LASSO | 0.98 | 0.91 | 0.91 | 2.08 |
| DECISION TREE | 0.99 | 0.96 | 0.02 | 1.92 |
| DECISION TREE TUNED | 0.99 | 0.93 | 1.66 | 0.12 |
| BAGGED LINEAR | 0.98 | 0.93 | 1.70 | 1.29 |
| BAGGED POLYNOMIAL | 0.97 | 0.93 | 1.88 | 1.67 |
| BAGGED DECISION TREE | 0.99 | 0.94 | 1.25 | 0.19 |
| RANDOM FOREST | 0.99 | 0.95 | 1.11 | 0.17 |
| XGBOOST | 1.0 | 0.87 | 3.09 | 2.72 |
| XGBOOST TUNED | 0.99 | 0.91 | 2.22 | 0.05 |
| NEURAL NETWORK | -196.43 | -273.87 | 12044.46 | 12682.62 |
| NEURAL NETWORK TUNED | 0.92 | 0.50 | 4.86 | 22.73 |

AVERAGE DATASET

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| MODEL | TRAIN\_R2 | TEST\_R2 | TRAIN\_MSE | TEST\_MSE |
| LINEAR | 0.84 | 0.86 | 65.21 | 59.84 |
| POLYNOMIAL | 0.97 | 0.96 | 12.00 | 14.87 |
| RANDOM FOREST | 0.99 | 0.97 | 10.47 | 1.86 |
| RANDOM FOREST TUNED | 0.99 | 0.97 | 10.46 | 1.86 |
| XGBOOST | 0.99 | 0.97 | 10.69 | 1.57 |
| XGBOOST TUNED | 0.99 | 0.97 | 10.19 | 2.25 |
| NEURAL NETWORKS | 0.96 | 0.96 | 13.54 | 13.80 |

HIGH DATASET

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| MODEL | TRAIN\_R2 | TEST\_R2 | TRAIN\_MSE | TEST\_MSE |
| LINEAR | 0.82 | 0.82 | 284.15 | 269.75 |
| POLYNOMIAL | 0.97 | 0.97 | 38.50 | 44.52 |
| POLYNOMIAL DEGREE 3 | 0.99 | 0.99 | 9.42 | 12.09 |
| RANDOM FOREST | 0.99 | 0.99 | 5.88 | 13.58 |
| RANDOM FOREST TUNED | 0.99 | 0.99 | 5.84 | 13.94 |
| XGBOOST | 0.99 | 0.99 | 5.60 | 9.95 |
| XGBOOST TUNED | 0.99 | 0.99 | 5.48 | 11.12 |
| NEURAL NETWORKS | 0.98 | 0.98 | 25.35 | 28.10 |

VERY HIGH DATASET

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| MODEL | TRAIN\_R2 | TEST\_R2 | TRAIN\_MSE | TEST\_MSE |
| LINEAR | 0.77 | 0.71 | 179.00 | 244.53 |
| POLYNOMIAL | 0.99 | -176.26 | 2.76 | 87315.28 |
| POLYNOMIAL DEGREE 3 AND LASSO | 0.99 | 0.93 | 7.95 | 34.40 |
| RANDOM FOREST | 0.54 | 0.73 | 315.46 | 271.69 |
| RANDOM FOREST TUNED | 0.98 | 0.97 | 8.67 | 21.20 |
| XGBOOST | 0.99 | 0.98 | 3.04 | 15.19 |
| XGBOOST TUNED | 0.99 | 0.98 | 3.04 | 16.49 |
| NEURAL NETWORKS | 0.90 | 0.60 | 77.23 | 292.50 |