

Loss Math

Table 1: Regression Results (MSE)

| Dataset | Obs. | Dim. | GF | RF | XGB | LGBM | CatBoost |
|--------------------|-------|------|----|----|-----|------|----------|
| California Housing | 20640 | 8 | — | — | — | — | — |
| Wine Quality | 4898 | 11 | — | — | — | — | — |
| Concrete Strength | 1030 | 9 | — | — | — | — | — |
| Airfoil Self Noise | 1503 | 5 | — | — | — | — | — |
| Energy Efficiency | 768 | 8 | — | — | — | — | — |
| Wine Quality | — | — | — | — | — | — | — |
| Wine Quality | — | — | — | — | — | — | — |
| Wine Quality | — | — | — | — | — | — | — |
| Wine Quality | — | — | — | — | — | — | — |
| Wine Quality | — | — | — | — | — | — | — |
| Wine Quality | — | — | — | — | — | — | — |
| Wine Quality | — | — | — | — | — | — | — |

Table 2: Classification Results (Log-Loss)

| Dataset | Obs. | Dim. | GF | RF | XGB | LGBM | CatBoost |
|---------------------------|------|------|----|----|-----|------|----------|
| 10M Higgs | 11M | 28 | — | — | — | — | — |
| Cardiovascular Disease | — | 11 | — | — | — | — | — |
| Heart Disease | — | — | — | — | — | — | — |
| Airline Satisfaction | — | — | — | — | — | — | — |
| Health Insurance Interest | — | — | — | — | — | — | — |
| L&T Vehicle Loan | — | — | — | — | — | — | — |
| Wine Quality | — | — | — | — | — | — | — |
| Wine Quality | — | — | — | — | — | — | — |
| Wine Quality | — | — | — | — | — | — | — |
| Wine Quality | — | — | — | — | — | — | — |
| Wine Quality | — | — | — | — | — | — | — |
| Wine Quality | — | — | — | — | — | — | — |