# Regression Models Summary Report

**Model Performance Metrics**
- Linear Regression: RMSE=29.24, MAE=19.26, R²=-2.16
- Ridge Regression: RMSE=14.38, MAE=11.47, R²=0.236
- Lasso Regression: RMSE=15.03, MAE=12.08, R²=0.165

Ridge regression provided the best fit, explaining ~24% of variance. Lasso also captured meaningful features.

## Ridge Regression - Top 10 Features

| Feature | Coefficient |
| --- | --- |
| is_home | 1.821 |
| opponent_oberlin | 0.861 |
| opponent_langston university | 0.770 |
| travel_distance_km | -0.764 |
| opponent_oklahoma | -0.761 |
| opponent_nichols college | 0.759 |
| team_coast guard | 0.748 |
| team_coe college | 0.741 |
| opponent_davidson | 0.735 |
| opponent_sul ross state | 0.699 |

## Lasso Regression - Top 10 Features

| Feature | Coefficient |
| --- | --- |
| is_home | 3.232 |
| eff_off_cum_total_ppa | 3.069 |
| opponent_oberlin | 1.146 |
| opponent_nichols college | 1.090 |
| team_coe college | 1.056 |
| opponent_western new mexico | 0.959 |
| opponent_langston university | 0.934 |
| opponent_puget sound | 0.910 |
| opponent_davidson | 0.905 |
| opponent_sul ross state | 0.832 |