

## Final Model Metrics: Random Forest Regressor

### Features

```
['travel_distance_diff', 'latitude_diff', 'longitude_diff',  
 'games_back_to_back_percentage_game_window999_diff',  
 'future_Away_game_percent_day_window999_diff',  
 'future_home_game_percent_day_window999_diff',  
 'away_game_percent_day_window999_diff',  
 'games_back_to_back_count_game_window999_diff',  
 'home_game_percent_day_window999_diff',  
 'future_Away_game_percent_day_window12_diff',  
 'game_count_day_window999_diff',  
 'future_home_game_percent_day_window12_diff',  
 'games_back_to_back_percentage_game_window12_diff', 'season_2011-12',  
 'home_game_percent_day_window12_diff', 'game_date_diff_diff',  
 'future_home_game_count_day_window12_diff',  
 'away_game_percent_day_window12_diff', 'team_id_a_1610612751',  
 'future_game_count_day_window999_diff',  
 'home_game_count_day_window999_diff',  
 'future_Away_game_percent_day_window8_diff',  
 'away_game_percent_day_window8_diff',  
 'future_home_game_percent_day_window8_diff',  
 'home_game_percent_day_window8_diff',  
 'away_game_count_day_window999_diff', 'game_count_day_window12_diff',  
 'future_game_count_day_window12_diff',  
 'home_game_count_day_window8_diff', 'home_game_count_day_window12_diff',  
 'games_back_to_back_percentage_game_window5_diff',  
 'away_game_count_day_window12_diff', 'team_id_a_1610612747',  
 'future_game_count_day_window8_diff',  
 'future_Away_game_count_day_window8_diff',  
 'games_back_to_back_count_game_window12_diff',  
 'game_count_day_window8_diff', 'game_count_day_window5_diff',  
 'future_game_count_day_window2_diff',  
 'away_game_count_day_window2_diff', 'spread_a',  
 'NET_RATING_cma999_diff', 'PIE_cma999_diff',  
 'strength_of_schedule_diff', 'opp_losses_diff', 'PIE_cma12_diff',  
 'E_NET_RATING_cma12_diff', 'away_home__cma999_diff', 'pf_cma999_diff',  
 'fg3a_cma12_diff', 'E_NET_RATING_cmax5_diff', 'lc_max_MIN_cma5_diff',
```

```
'lc_max_POSS_cma5_diff', 'spread_cma12_diff', 'lc_max_MIN_cma12_diff',
'opp_opps_win_pct_diff', 'w_pct_cma12_diff', 'EFG_PCT_cma999_diff',
'TS_PCT_cma999_diff', 'lc_sum_POSS_cmax5_diff',
'E_OFF_RATING_cma999_diff', 'lc_sum_TS_PCT_cma999_diff',
'PIE_cma5_diff', 'E_DEF_RATING_cma12_diff', 'w_pct_cma5_diff',
'lc_mean_TS_PCT_cma5_diff', 'AST_RATIO_cmax5_diff',
'lc_mean_EFG_PCT_cmax999_diff', 'w_pct_cmax5_diff', 'wins_diff',
'lc_max_AST_TOV_cmax999_diff', 'lc_sum_AST_RATIO_cma5_diff',
'OFF_RATING_cma999_diff', 'lc_sum_TS_PCT_cma5_diff',
'NET_RATING_cma12_diff', 'pf_cmax999_diff',
'lc_sum_NET_RATING_cmax999_diff', 'lc_max_AST_TOV_cmax12_diff',
'lc_sum_AST_PCT_cmax5_diff', 'fg3_pct_cma999_diff',
'ft_pct_cmax12_diff', 'lc_max_MIN_cmax5_diff', 'E_NET_RATING_cma5_diff',
'E_NET_RATING_cmax12_diff'],
```

## Hyperparameters

```
{'memory': None,
 'steps': [('randomforestregressor',
           RandomForestRegressor(criterion='mae', max_depth=10, min_samples_split=100,
                                n_estimators=200, random_state=47))],
 'verbose': False,
 'randomforestregressor': RandomForestRegressor(criterion='mae', max_depth=10,
min_samples_split=100,
           n_estimators=200, random_state=47),
 'randomforestregressor__bootstrap': True,
 'randomforestregressor__ccp_alpha': 0.0,
 'randomforestregressor__criterion': 'mae',
 'randomforestregressor__max_depth': 10,
 'randomforestregressor__max_features': 'auto',
 'randomforestregressor__max_leaf_nodes': None,
 'randomforestregressor__max_samples': None,
 'randomforestregressor__min_impurity_decrease': 0.0,
 'randomforestregressor__min_impurity_split': None,
 'randomforestregressor__min_samples_leaf': 1,
 'randomforestregressor__min_samples_split': 100,
 'randomforestregressor__min_weight_fraction_leaf': 0.0,
 'randomforestregressor__n_estimators': 200,
```

'randomforestregressor\_\_n\_jobs': None,  
'randomforestregressor\_\_oob\_score': False,  
'randomforestregressor\_\_random\_state': 47,  
'randomforestregressor\_\_verbose': 0,  
'randomforestregressor\_\_warm\_start': False}

Performance Metrics

Model Metrics

	MAE	MAPE
Random Forest	9.687	134.838
Gradient Boosting	9.685	133.491
Linear Regression	9.708	111.222