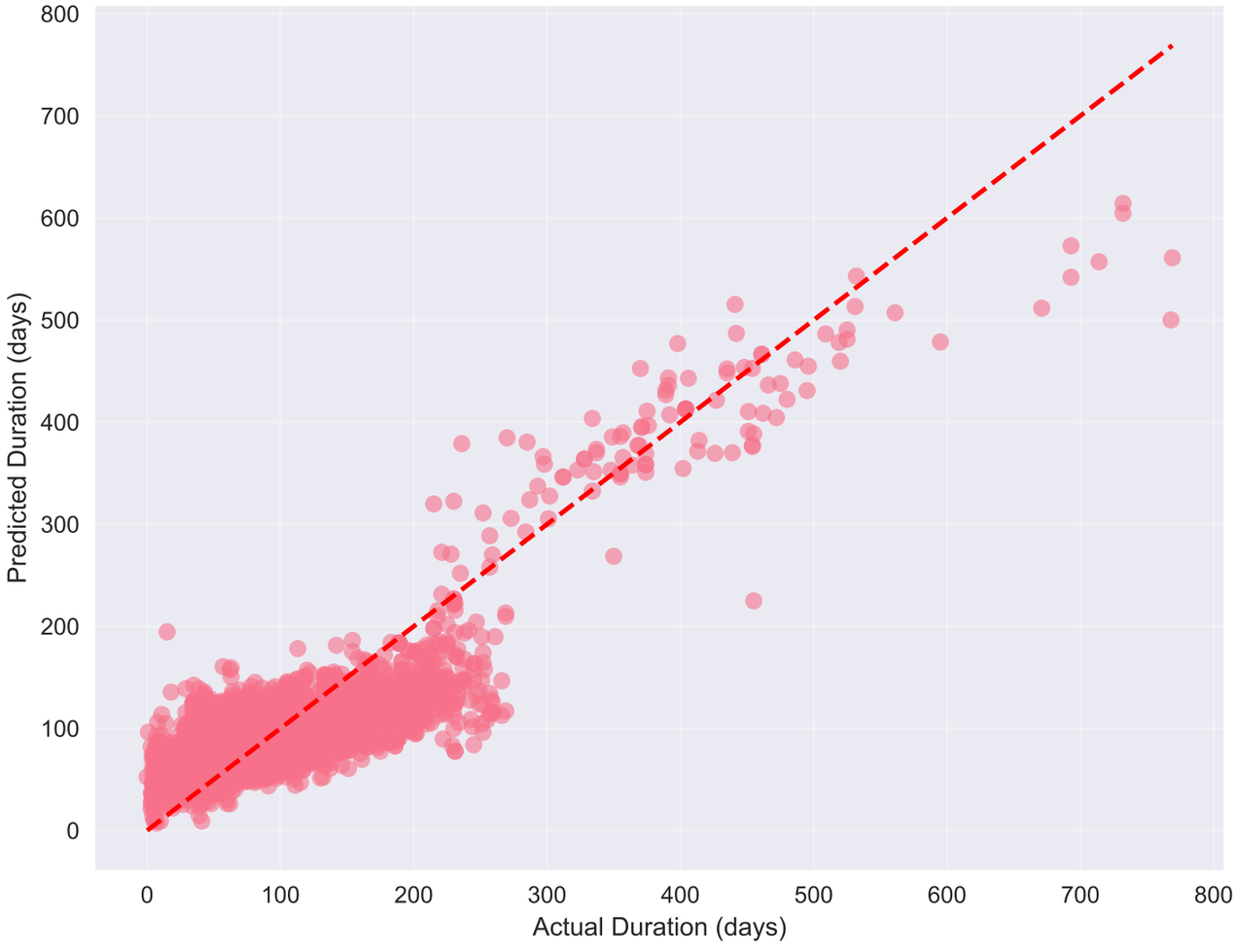
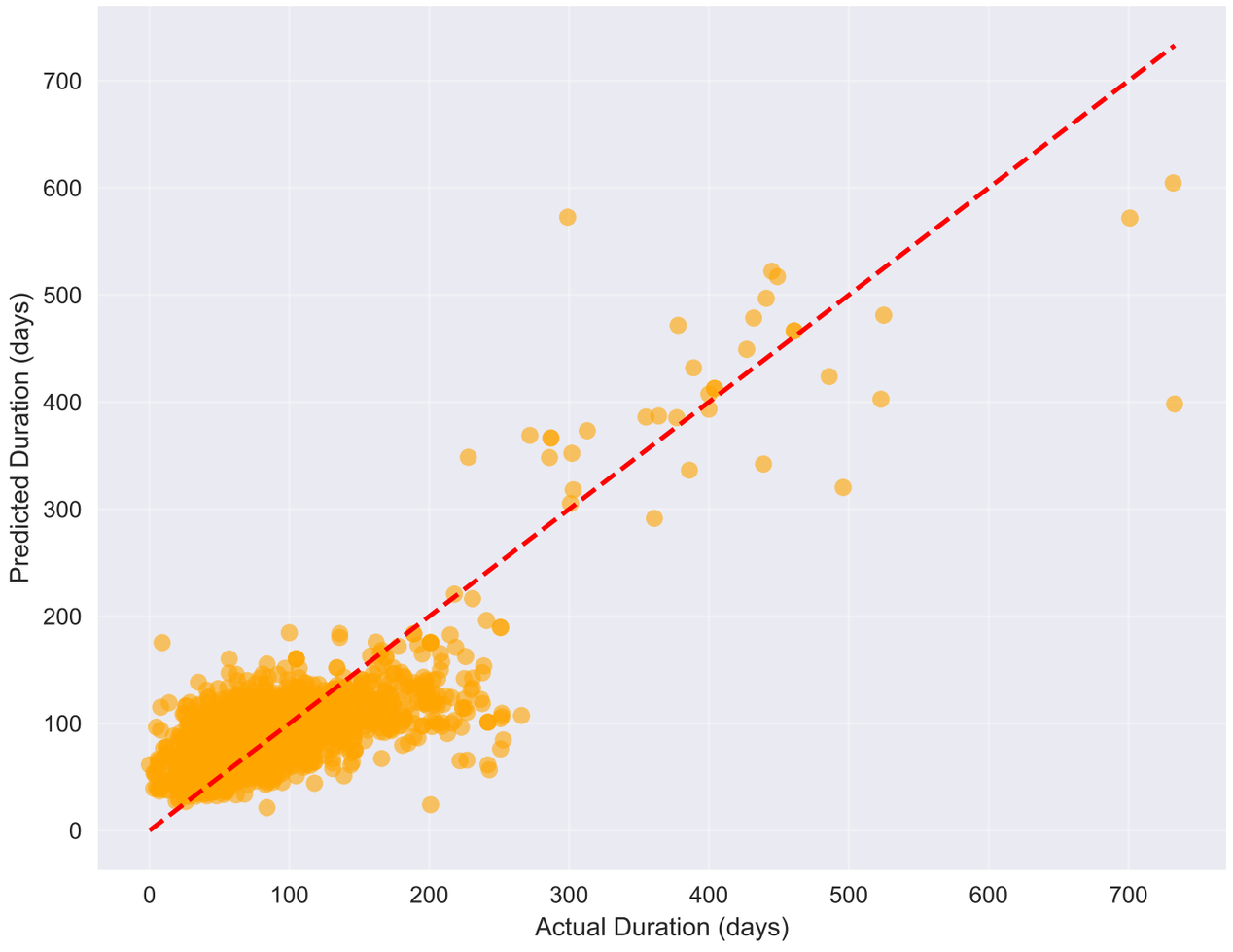
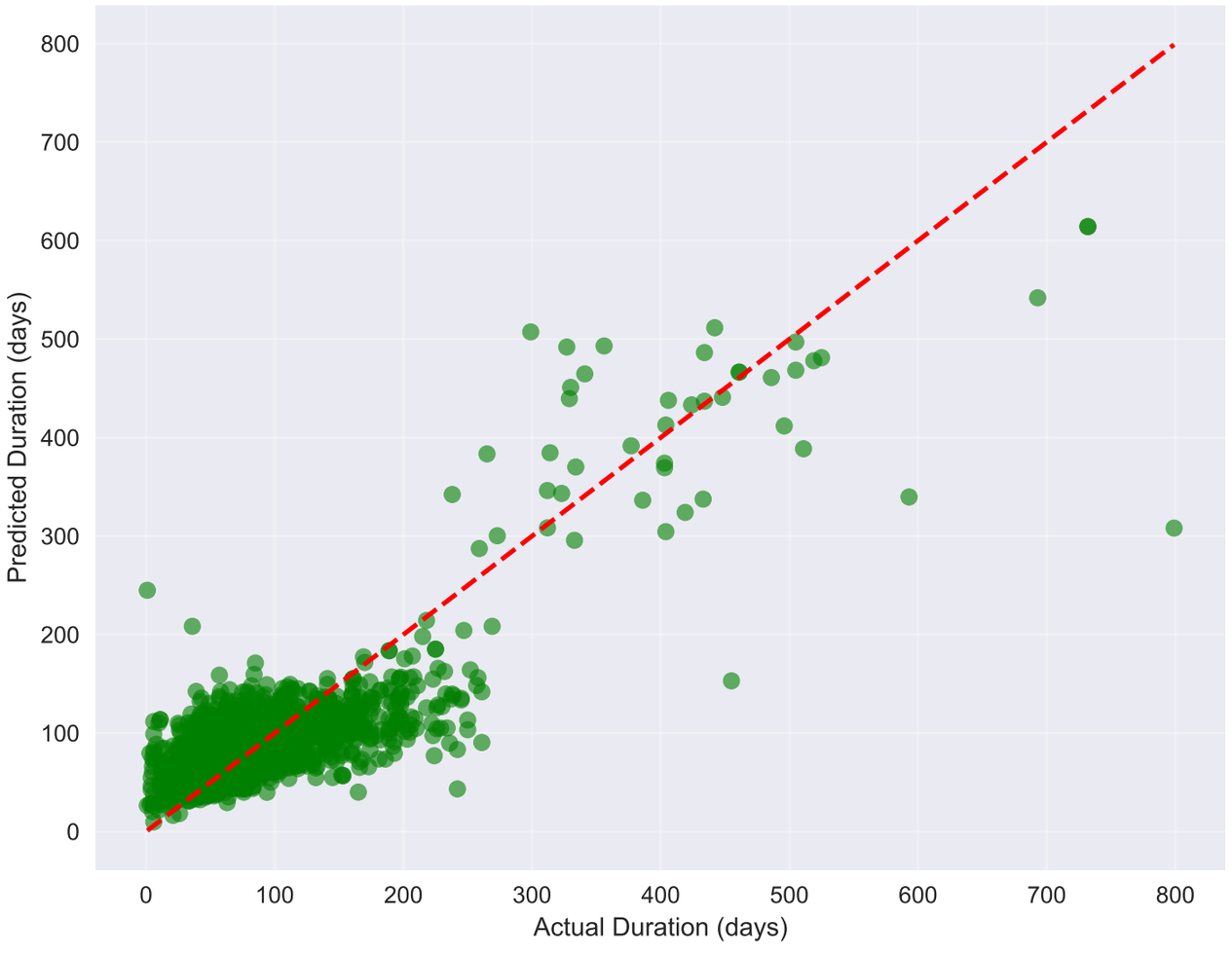
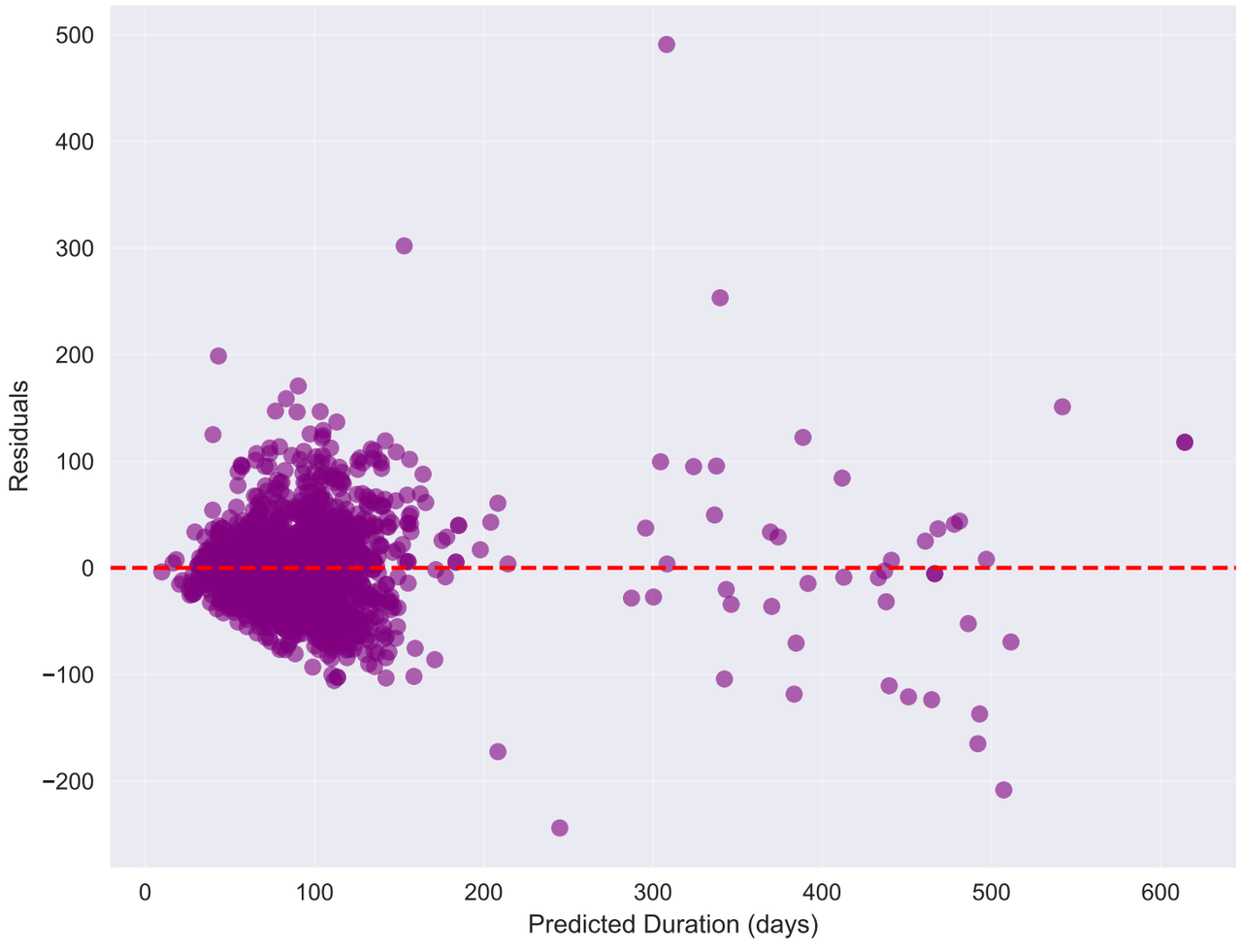
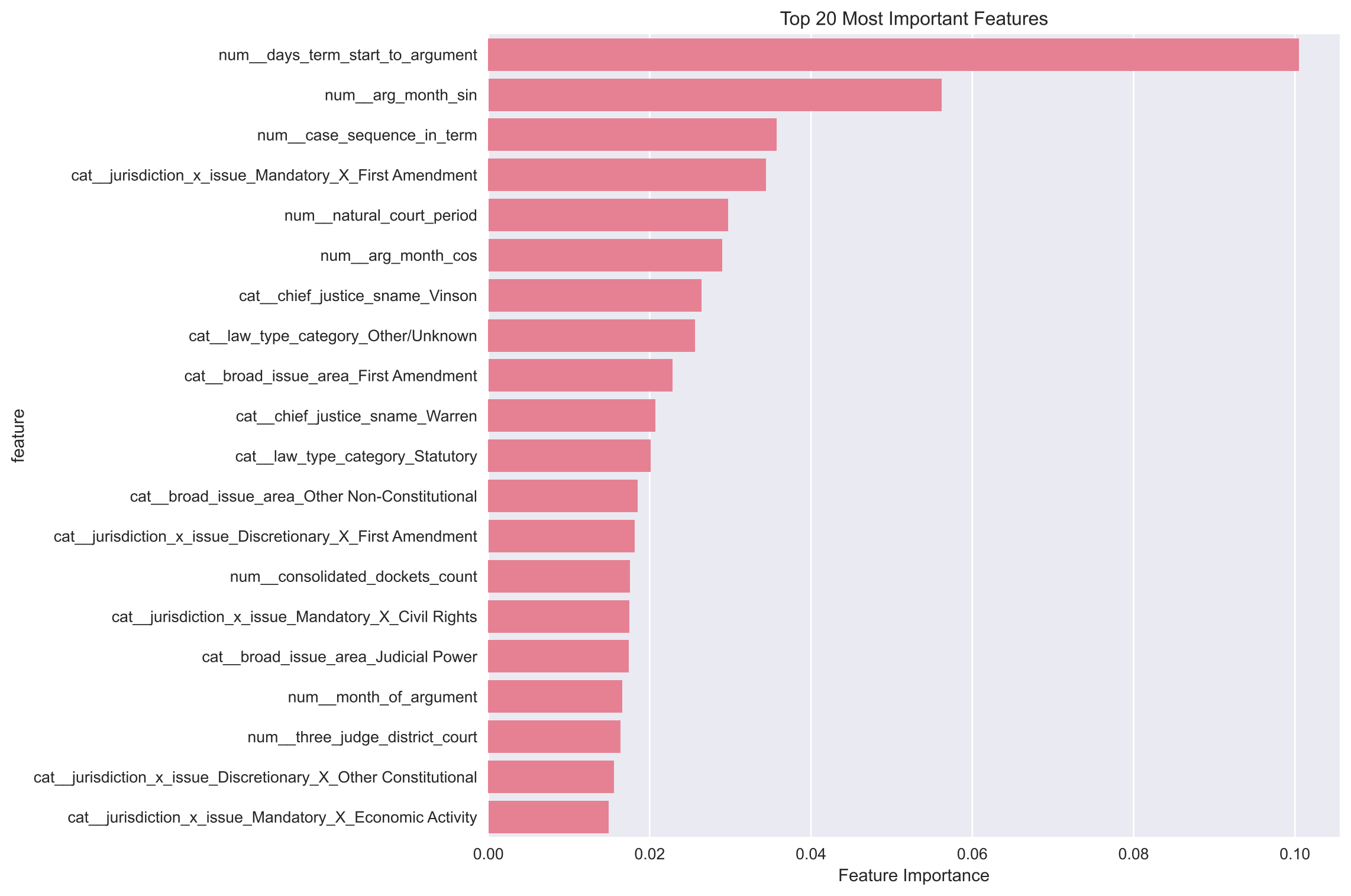

Train Set: R² = 0.7285
Predicted Duration (days)
Actual Duration (days)
0
100
200
300
400
500
600
700
800

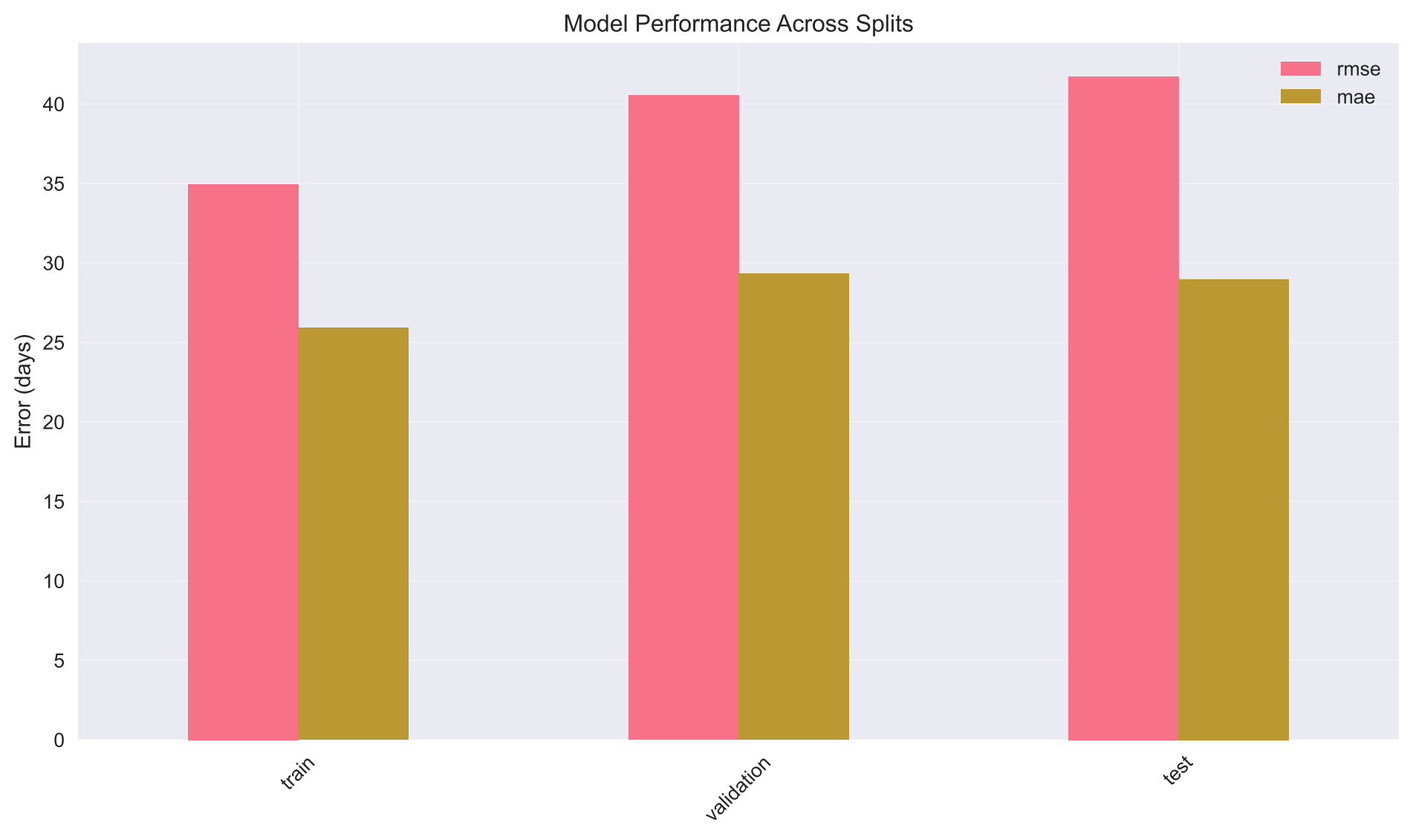

Validation Set: R² = 0.6361
Predicted Duration (days)
Actual Duration (days)
0
100
200
300
400
500
600
700

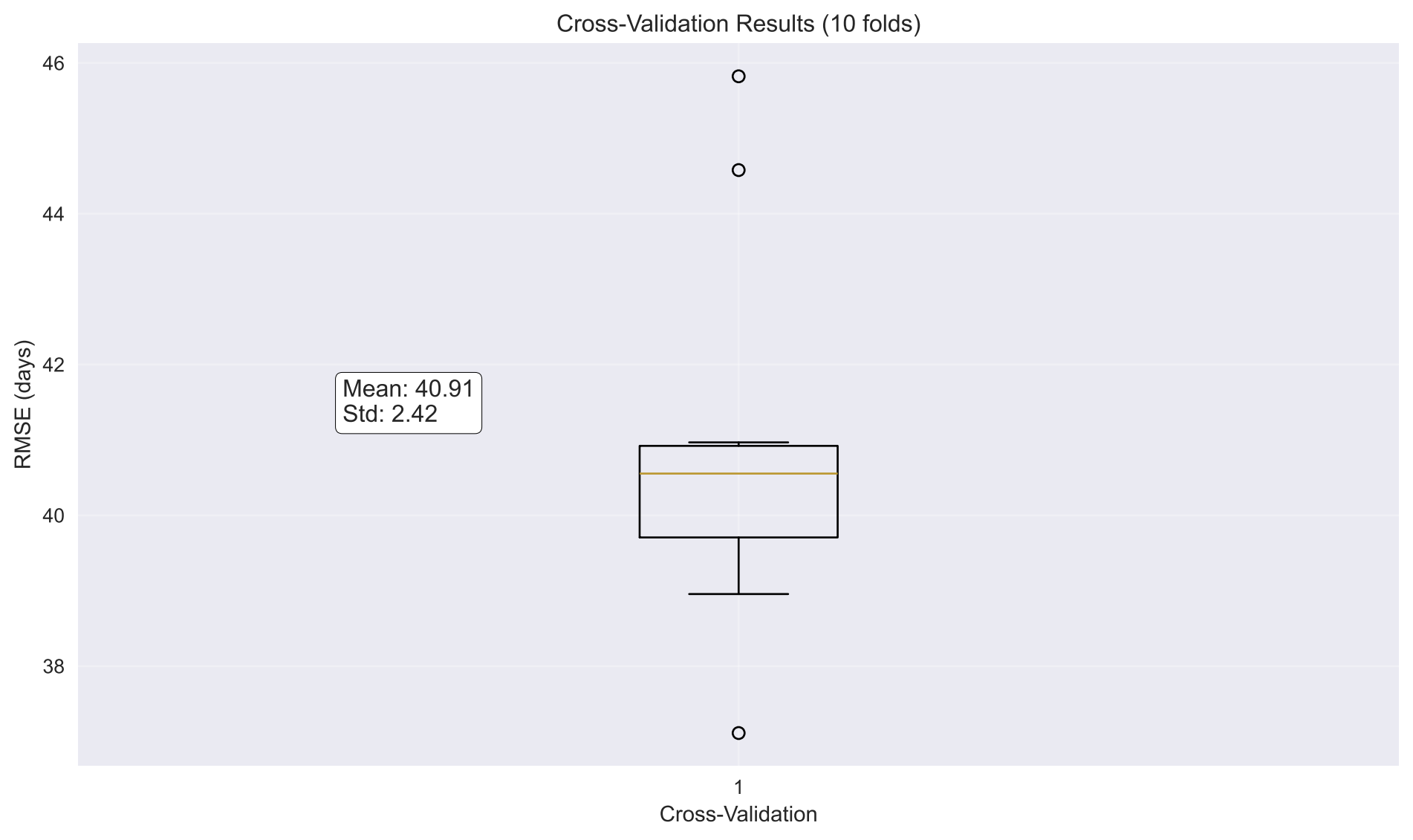

Test Set: R² = 0.6698
Predicted Duration (days)
Actual Duration (days)
0
100
200
300
400
500
600
700
800


Residual Plot (Test Set)
Residuals
Predicted Duration (days)
−200
−100
0
100
200
300
400
500
600


Top 20 Most Important Features
num__days_term_start_to_argument
num__arg_month_sin
num__case_sequence_in_term
cat__jurisdiction_x_issue_Mandatory_X_First Amendment
num__natural_court_period
num__arg_month_cos
cat__chief_justice_sname_Vinson
cat__law_type_category_Other/Unknown
cat__broad_issue_area_First Amendment
cat__chief_justice_sname_Warren
cat__law_type_category_Statutory
cat__broad_issue_area_Other Non-Constitutional
cat__jurisdiction_x_issue_Discretionary_X_First Amendment
num__consolidated_dockets_count
cat__jurisdiction_x_issue_Mandatory_X_Civil Rights
cat__broad_issue_area_Judicial Power
num__month_of_argument
num__three_judge_district_court
cat__jurisdiction_x_issue_Discretionary_X_Other Constitutional
cat__jurisdiction_x_issue_Mandatory_X_Economic Activity
feature
0.00
0.02
0.04
0.06
0.08
0.10
Feature Importance

Training History
Validation RMSE
RMSE
65
60
55
50
45
40
35
0
100
200
300
400
Boosting Round


Model Performance Across Splits
rmse
mae
Error (days)
0
5
10
15
20
25
30
35
40
train
validation
test


Cross-Validation Results (10 folds)
RMSE (days)
46
44
42
40
38
Mean: 40.91
Std: 2.42
1
Cross-Validation