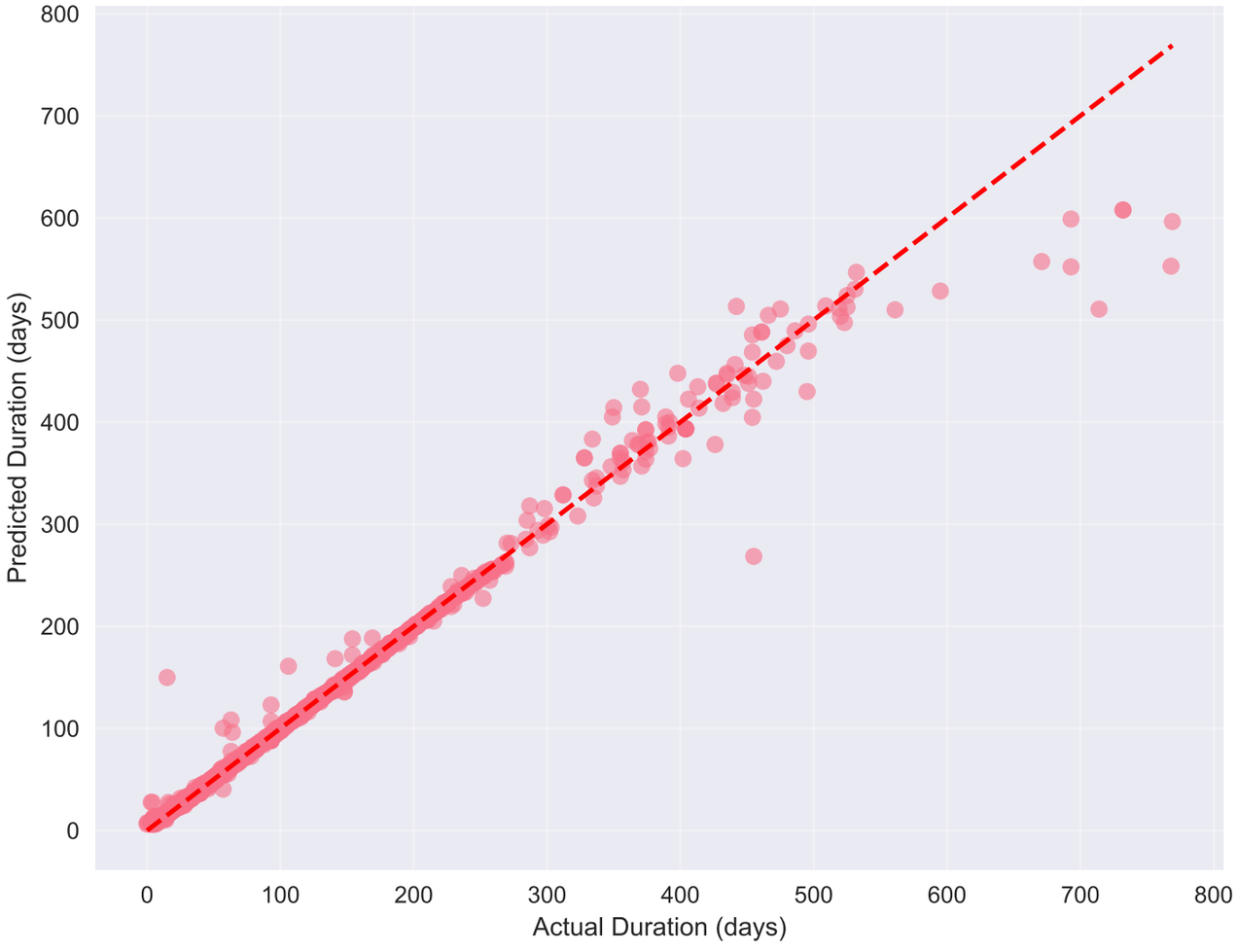
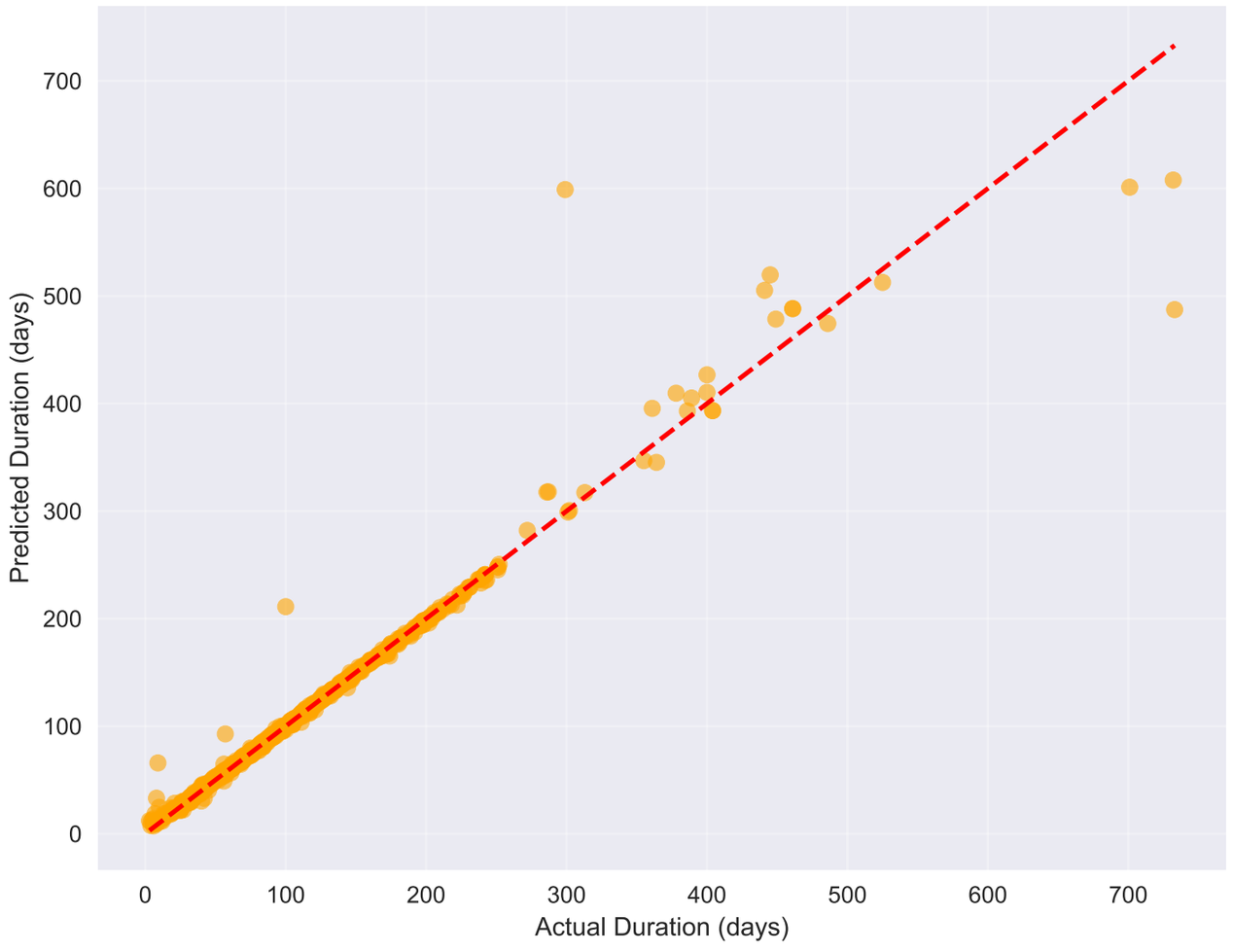
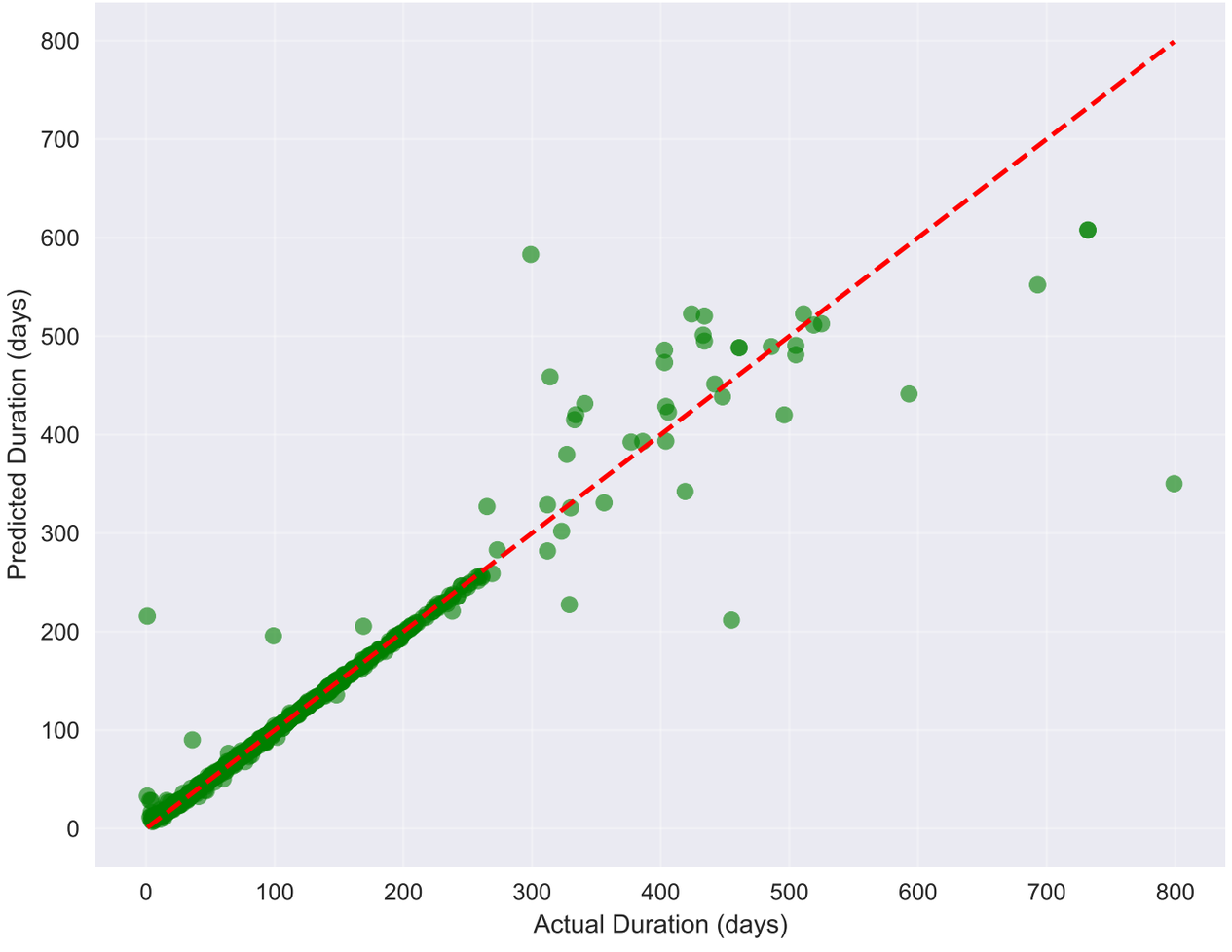
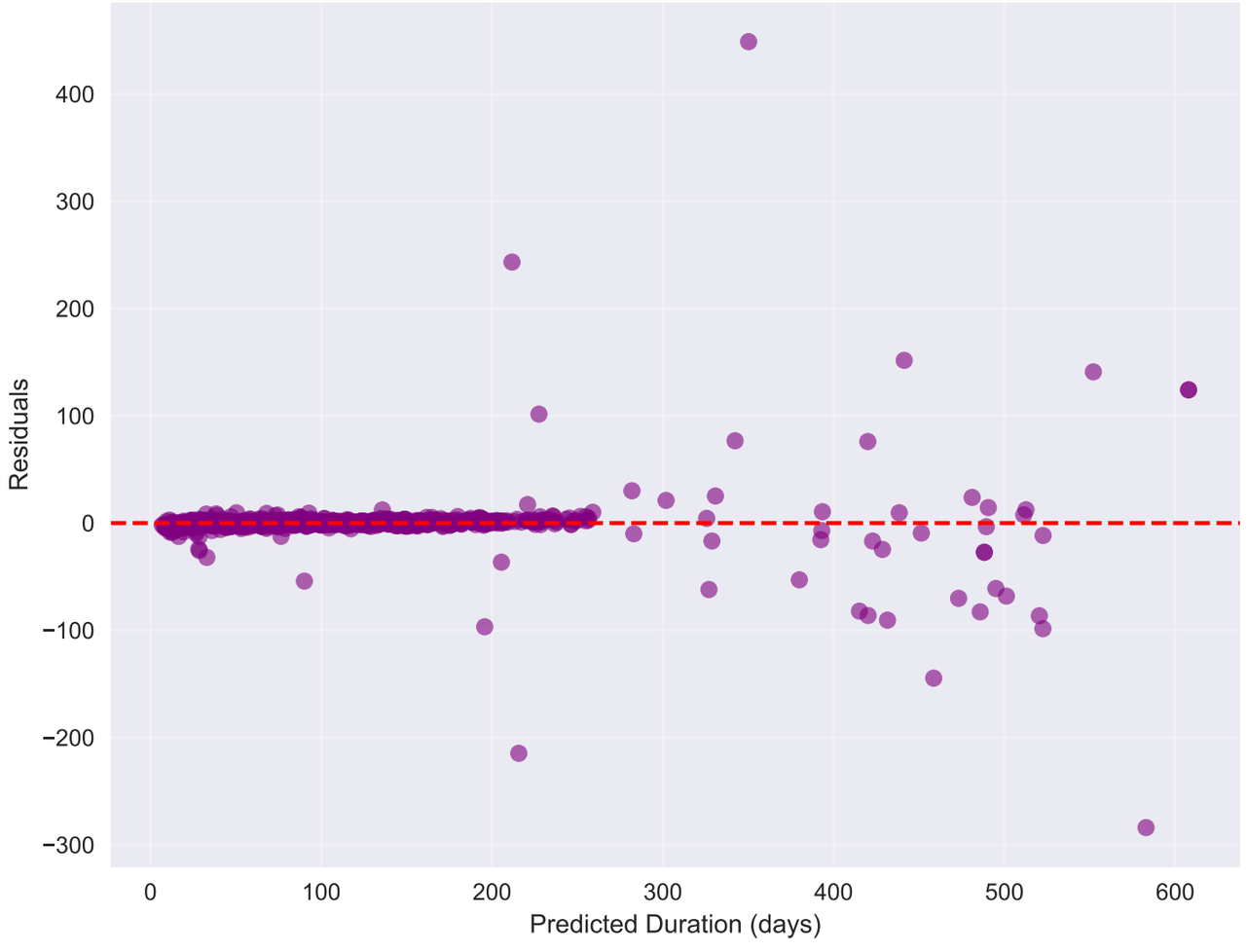
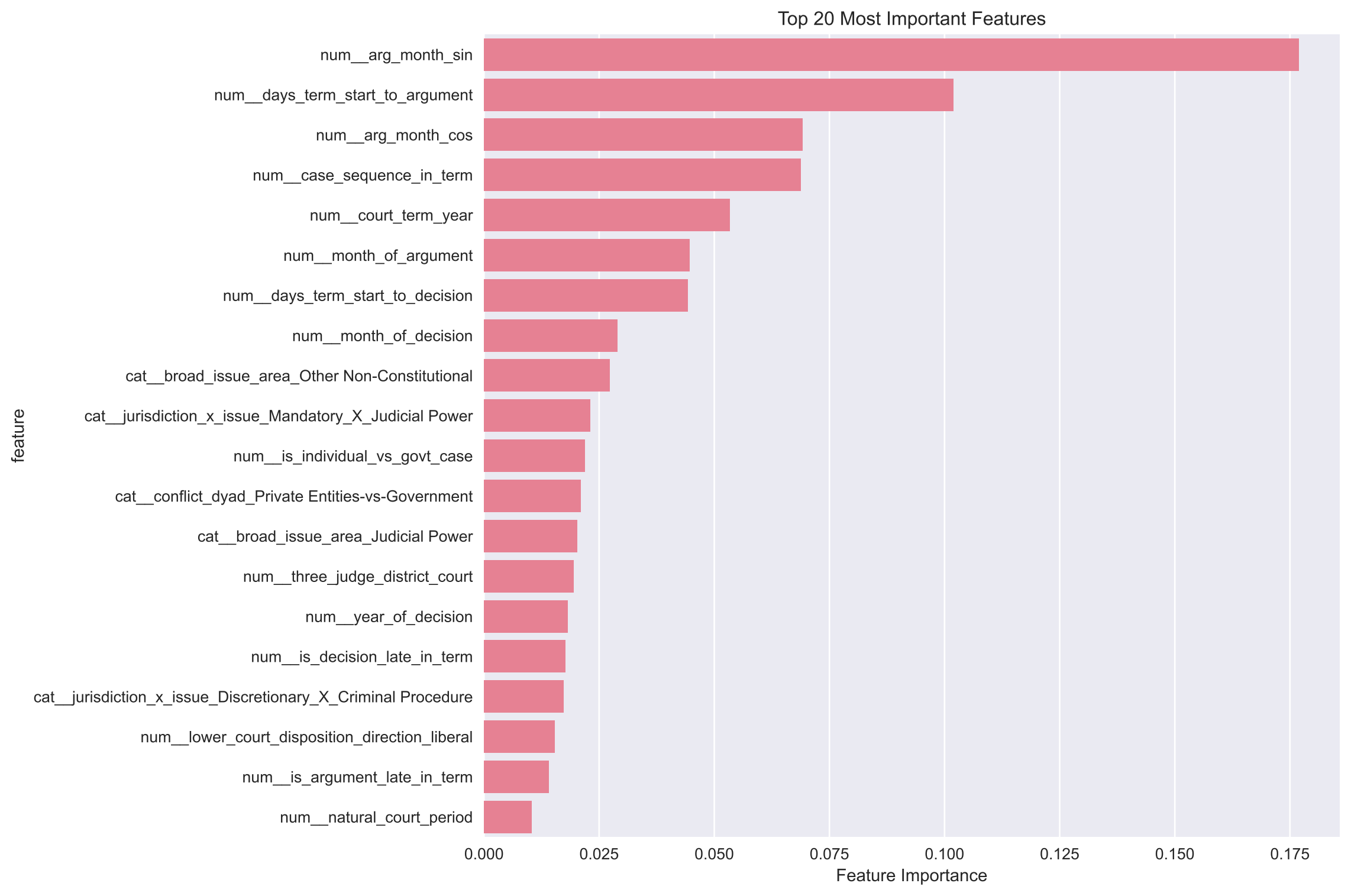
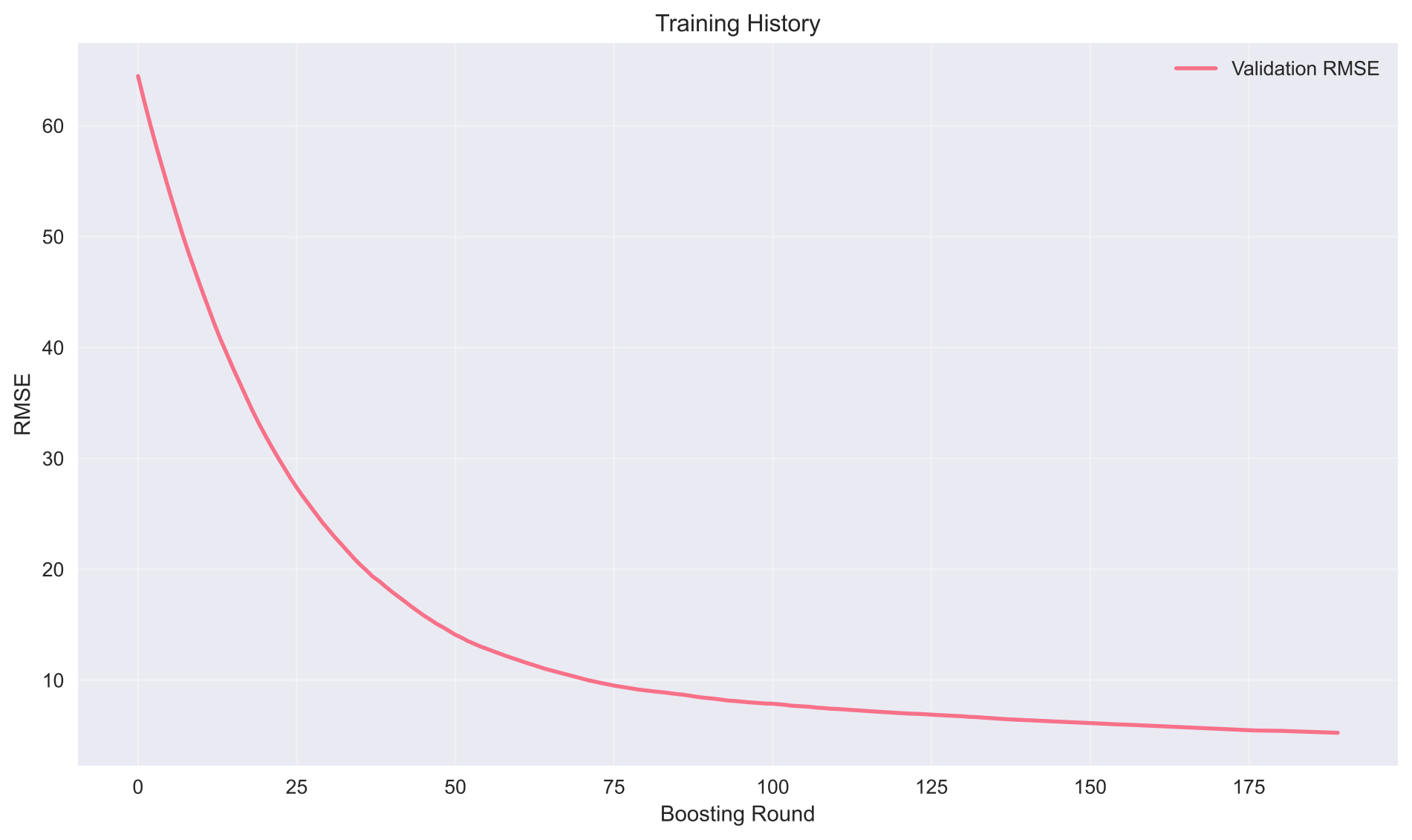

Train Set: R² = 0.9882
Predicted Duration (days)
Actual Duration (days)
0
100
200
300
400
500
600
700
800

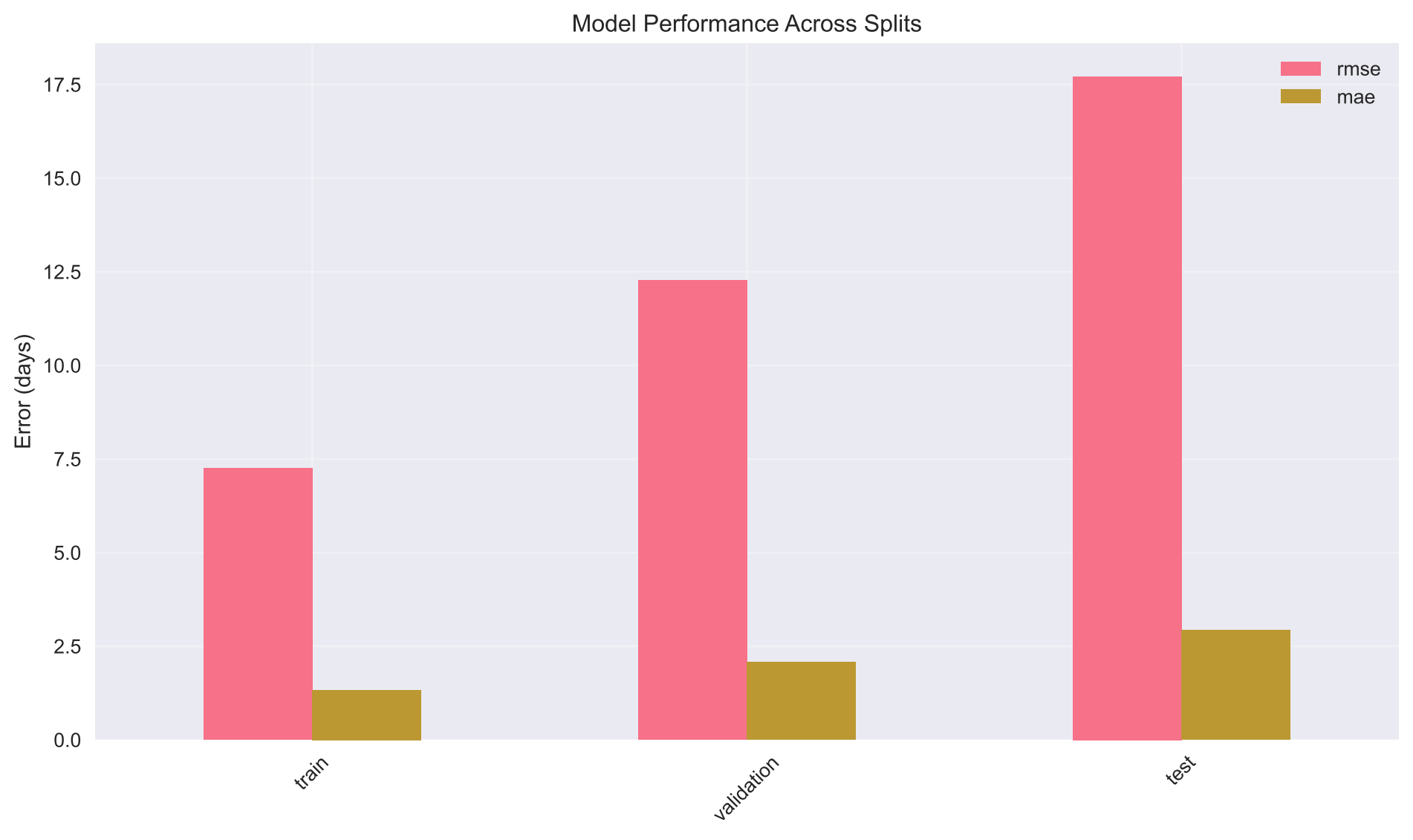

Validation Set: R² = 0.9677
Predicted Duration (days)
Actual Duration (days)
0
100
200
300
400
500
600
700

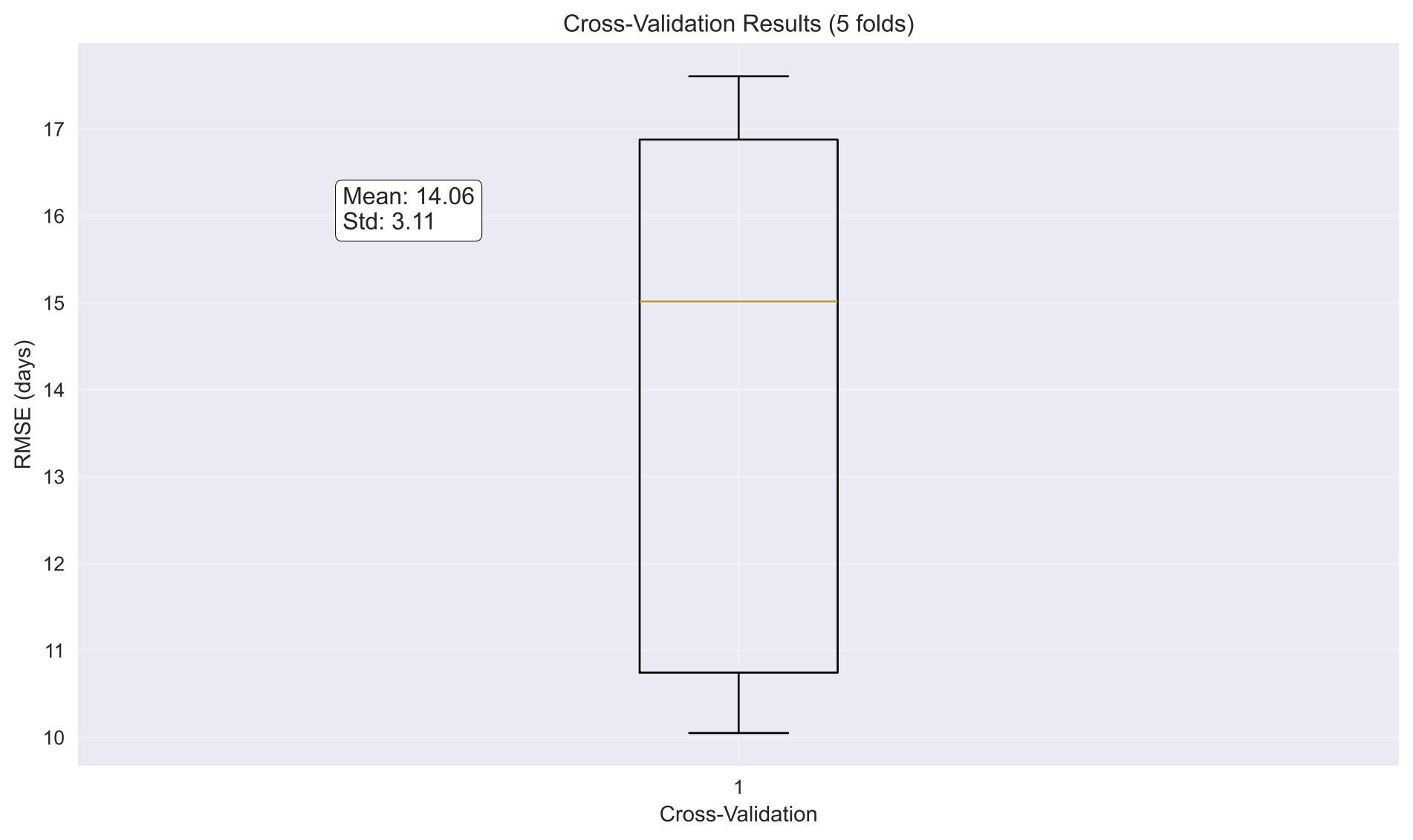

Test Set: R² = 0.9405
Predicted Duration (days)
Actual Duration (days)
0
100
200
300
400
500
600
700
800


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


Top 20 Most Important Features
num__arg_month_sin
num__days_term_start_to_argument
num__arg_month_cos
num__case_sequence_in_term
num__court_term_year
num__month_of_argument
num__days_term_start_to_decision
num__month_of_decision
cat__broad_issue_area_Other Non-Constitutional
cat__jurisdiction_x_issue_Mandatory_X_Judicial Power
num__is_individual_vs_govt_case
cat__conflict_dyad_Private Entities-vs-Government
cat__broad_issue_area_Judicial Power
num__three_judge_district_court
num__year_of_decision
num__is_decision_late_in_term
cat__jurisdiction_x_issue_Discretionary_X_Criminal Procedure
num__lower_court_disposition_direction_liberal
num__is_argument_late_in_term
num__natural_court_period
feature
0.000
0.025
0.050
0.075
0.100
0.125
0.150
0.175
Feature Importance


Training History
Validation RMSE
RMSE
60
50
40
30
20
10
0
25
50
75
100
125
150
175
Boosting Round


Model Performance Across Splits
rmse
mae
Error (days)
17.5
15.0
12.5
10.0
7.5
5.0
2.5
0.0
train
validation
test


Cross-Validation Results (5 folds)
Mean: 14.06
Std: 3.11
RMSE (days)
17
16
15
14
13
12
11
10
1
Cross-Validation