Predicting Revolution

The Relationship Between Protests, Government Types, and Regime Change

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DATA SOURCES

1. Historical Protest Data
- 17k protests from 1990 to 2020 in 167 countries
- Features include: protest size, location, and objectives
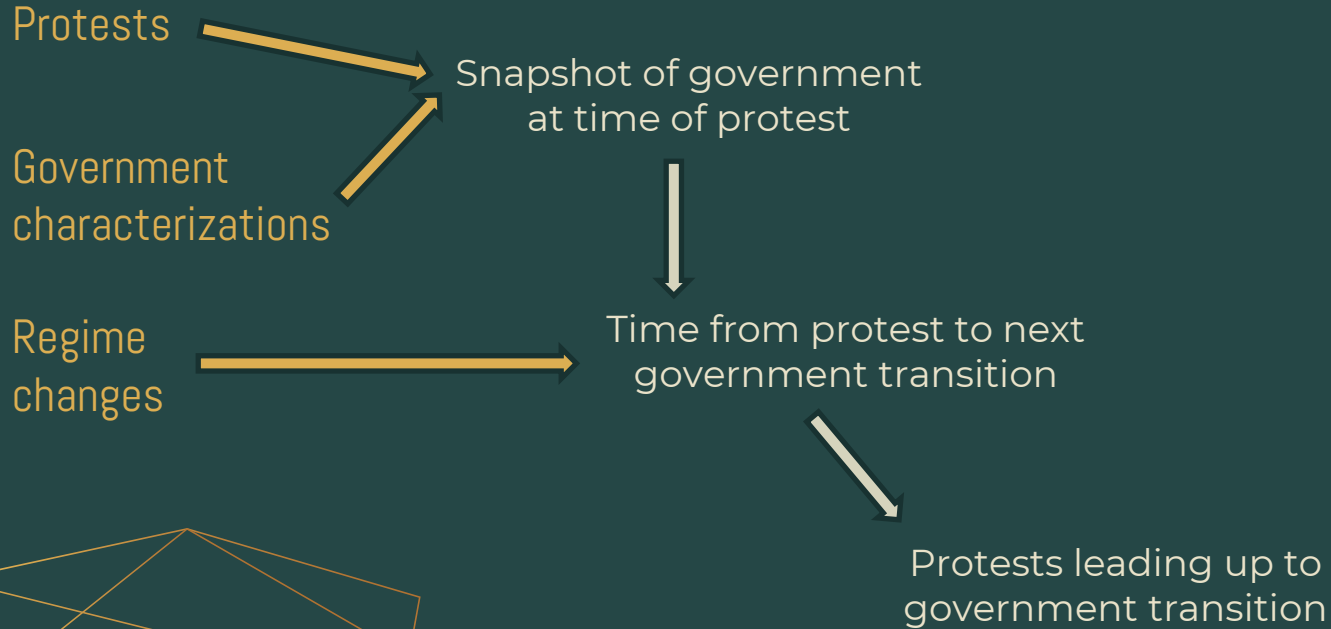- Source: Mass Mobilization Project by Political Instability Task Force

2. Government Characterizations
- Nearly every government globally from 1975 to 2020
- Features include: autocracy vs. democracy, tenure of leader, etc.
- Source: The Database of Political Institutions by Inter-American Development Bank (IDB)

3. Regime Transitions
- 1700 government transitions between 1776 and 2020 globally
- Features include: country leadership transition dates, exec. constraints
- Source: Polity Project by the Center for Systemic Peace

APPROACH

Protests

Government
characterizations

Regime
changes

Snapshot of government
at time of protest

Time from protest to next
government transition

Protests leading up to
government transition

MODELING

- Tested 7 different model types with 55 configurations
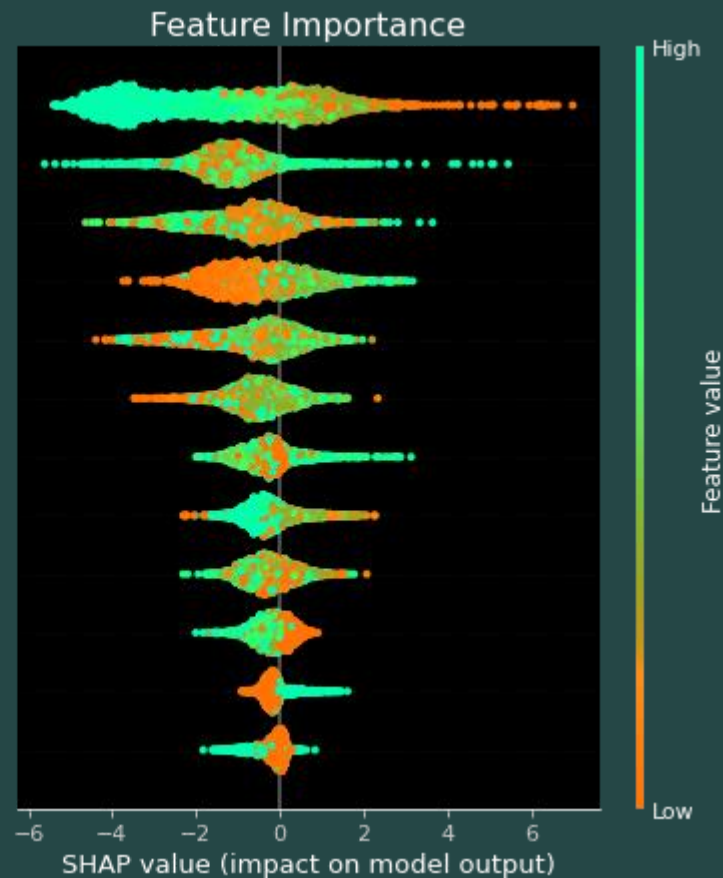- XG Boost identified as highest performer
  - Accuracy: 96%
  - F1 score: 0.80
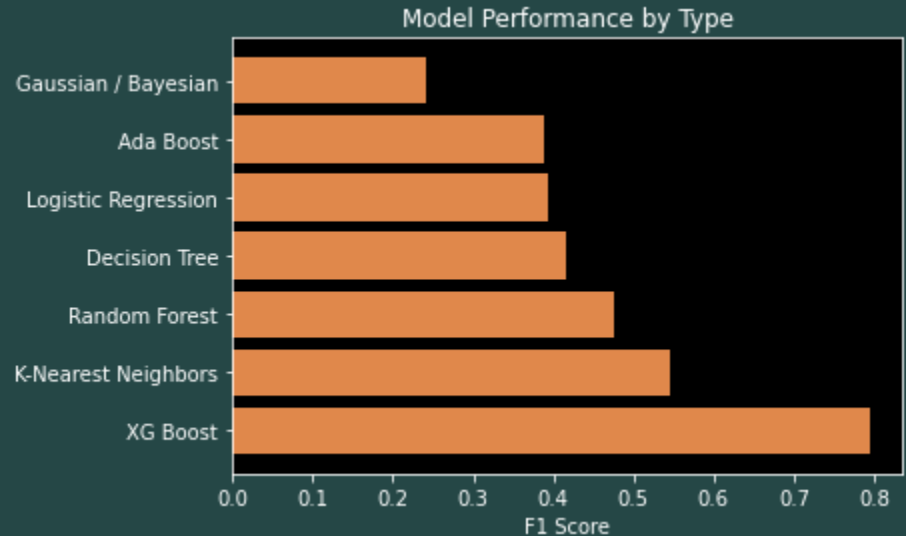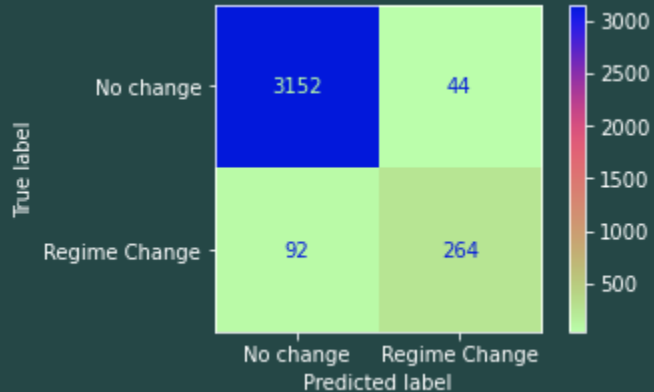
FINDINGS

Generalizations

Lower likelihood of regime change	Higher likelihood of regime change
New leadership	Low executive constraints
Gender diversity in leadership	Large protester turnout

Feature Importance

SUMMARY

- Regime transitions can be accurately predicted based on data about protests and government characteristics

- The strongest predictor is the amount of government authority.

- Protests in highly authoritarian regimes tend to be more strongly correlated with regime change than protests in strongly democratic countries
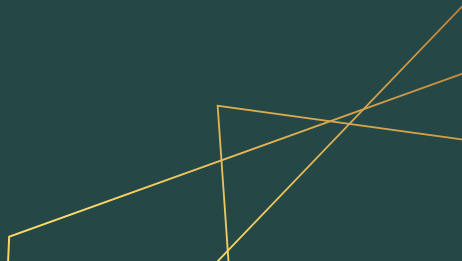
LIMITATIONS & NEXT STEPS

Limitations
- Only valid if the protests are known (less valid with little media representation or protest suppression)
- Correlation not causation

Next step: time series analysis
- How past protests affect future protests
- How inputs change over time

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