

Predicting Crime via Twitter

TEAM

15

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MOTIVATION

BUSINESS VALUE

- Unlike the private sector which has long realized the advantages of analytics. Problems in the public sector like those of crime have seemingly escaped the scrutiny of advanced analytics up to this point.
- Twitter sentiment data which has proven effective as a predictor for macro level agriculture and finance use cases. We want to apply the same lens on crime.
- Final outcome is to have certain prescriptive measures for city planning and law enforcement officials, and shift their mindset from a reactive to proactive approach towards tackling crime.

Technology Stack

STORAGE



Amazon S3

SENTIMENT & TOPIC ANALYSIS



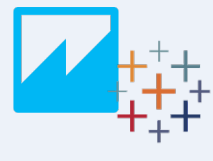
Twitter API &
Amazon
Comprehend

MODELING



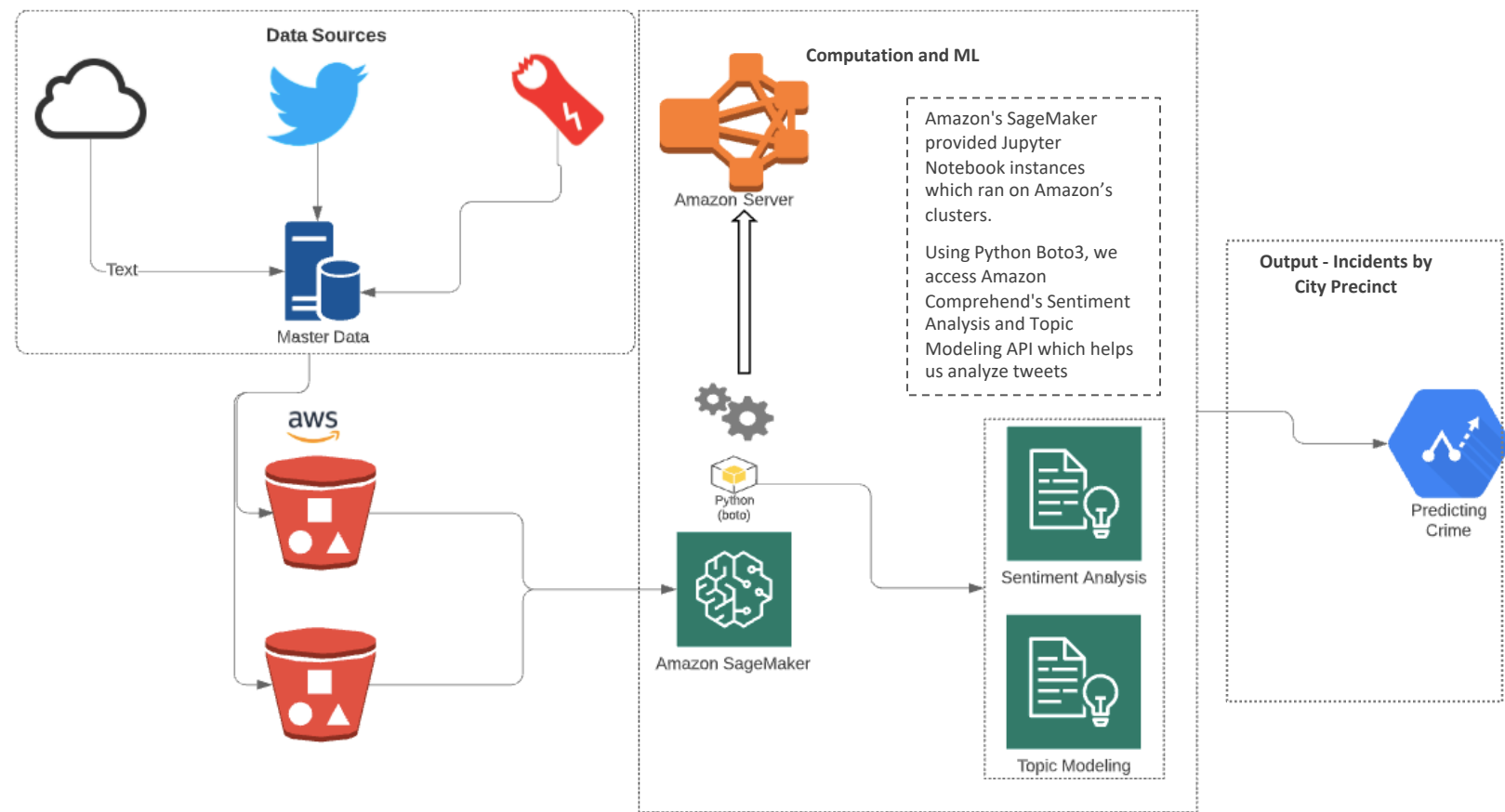
Amazon
SageMaker

VISUALIZATION



Amazon
QuickSight &
Tableau

Analytical Data Flow



Model Accuracy

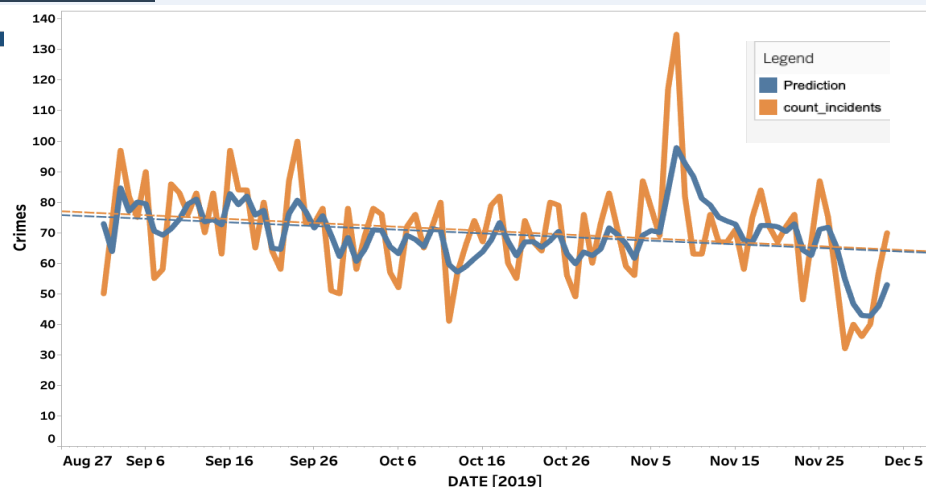
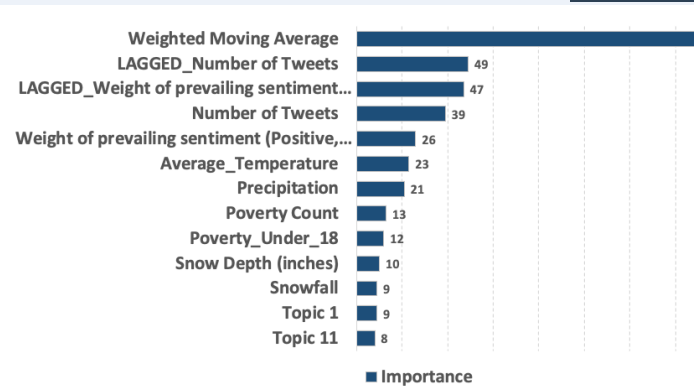
VALIDATION

Average Error %

25%

TEST

33%



NEXT STEPS

- Expand the model to predict crimes incidents by neighbourhoods, and package the solution into a usable software. This software should be similar to checking Google Maps for traffic
- Currently, only considered news channel tweets from Minneapolis are integrated as predictors. This can be expanded to include user level tweets