To Interview or Not to Interview?

Predicting the status for acceptance into a prestigious STEM academy.

The objective is to use the data collected from a school district to determine whether a student should be interviewed for a spot in the district's STEM Academy.

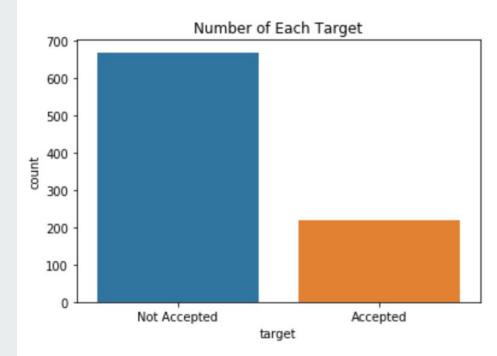# Methodology

Obtain/Scrub	Explore/Model	Interpret/Results

Collected data from district website that contained information from students middle school years:

1. Grades
2. Attendance
3. State test scores
4. Teacher comments

Checked for class imbalance and tested multiple models to find the best fit to classify if a student should be interviewed to attend the STEM Academy.

Used best model to check for accuracy in order to implement for future use.

What are we trying to predict?

Number of Each Target

Prediction Model Accuracy Comparison

91%

XGBOOST

- An increase of .0035% from base model.

91%

Logistic Regression

- An increase of .0034% from base model.

90%

Random Forest

- An increase of .002% from base model

15 out of 18 correct predictions

Future Work

- Develop an application in which teachers and guidance counselors can use to input necessary information to determine if a student should be interviewed.
  - Add to the application process to begin with, that way the school can quickly determine whether a student is a candidate without inputting any information themselves.
- Improve model for better accuracy
- Gather insight into middle school years.
  - Can middle school programs be improved so that all students are eligible for STEM academies?

Thank you.
Q & A