Weather Prediction

Austin Vuong (aav304)
Nathan Ly (ntl247)

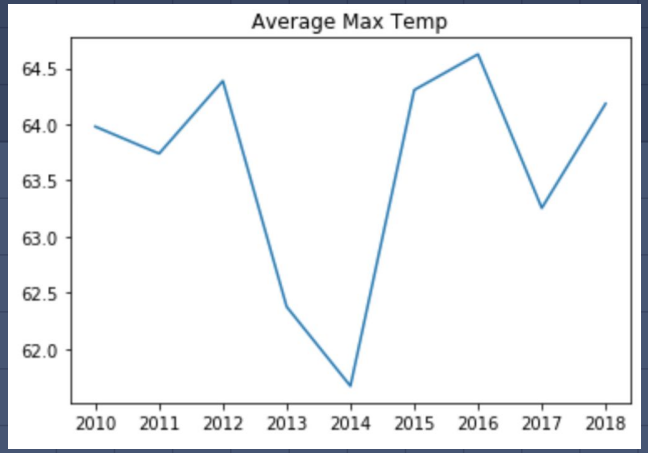
The Problem

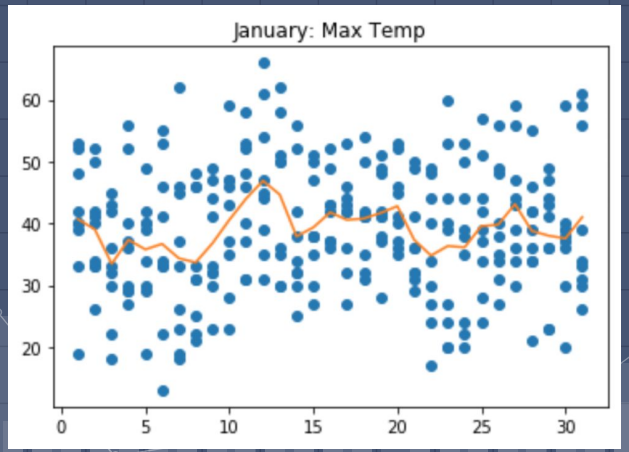
- Weather patterns have been disrupted all over the world. Even in this current year, our seasons are atypical.
- Weather forecasts are only reliable for a few days into the future
- We want to analyze weather data to predict upcoming irregularities in general weather patterns so that we may be better prepared in the coming months.

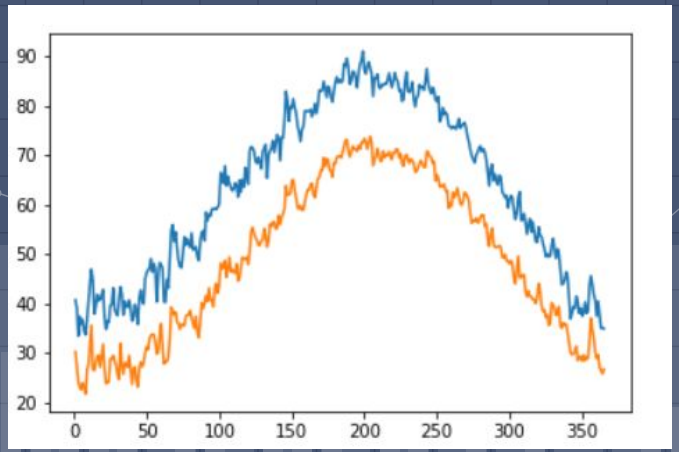
The Approach

- We gathered NYC data from the past 9 years from the National Oceanic and Atmospheric Administration
- We used a Time Series Model to generate the calculated average of the daily Hi/Low temperatures of each month and year
- Simple Linear Regression was not practical because weather changes in cycles
- A Simple Linear Regression line would show a constant increase/decrease in temperature

The Approach







Evaluation and Interpretation

- It is difficult to test results for days in the future since they have not happened yet, but we did check to see if previous days throughout the years were close to the calculated values
- From our testing, about 60% of the predicted temperatures were within 20% of the actual temperatures

Evaluation and Interpretation

- Shortcomings: lack of data
- The data gathered was not as detailed as we would have liked
- The dataset only had latitude/longitude, elevation, date, high temp, low temp
- Details such as humidity and precipitation would have been useful to make more predictions about the weather
- We would like to be more accurate