

J's Finance Explorer

Student: Zih-Cin Jian (zxj161530)

Professor: Jason Parker



BUAN6340

J's Finance Explorer

- A web application based on an additive model for forecasting stock prices
- The goal of this project:
 1. Understand and analyze time series data
 2. Write code and read documents and articles - python developer's documentation, stock market terms (bear and bull) etc.
 3. Communicate with people who have different backgrounds (see slide #8)

J's Finance Explorer

Distinct differences between J's Finance Explorer and other time-series examples used in textbooks and on the Internet listed below

Online Examples	J's Finance Explorer
<ul style="list-style-type: none">• Scikit-learn Linear Regression model• Statsmodels Module• TensorFlow (neural network computation framework)• Static Data• Quandl Online Database• Basic Pandas and Numpy• Basic Matplotlib	<ul style="list-style-type: none">• Additive Model (AM)• Prophet (open source software designed by Facebook)• Real-time Data• Web Scraping• Dash (a framework for building web apps)• Interactive Visualization• Cleaner Code(Continuous Code Refactoring)• My Own Modules

J's Finance Explorer - Functions

Webpage

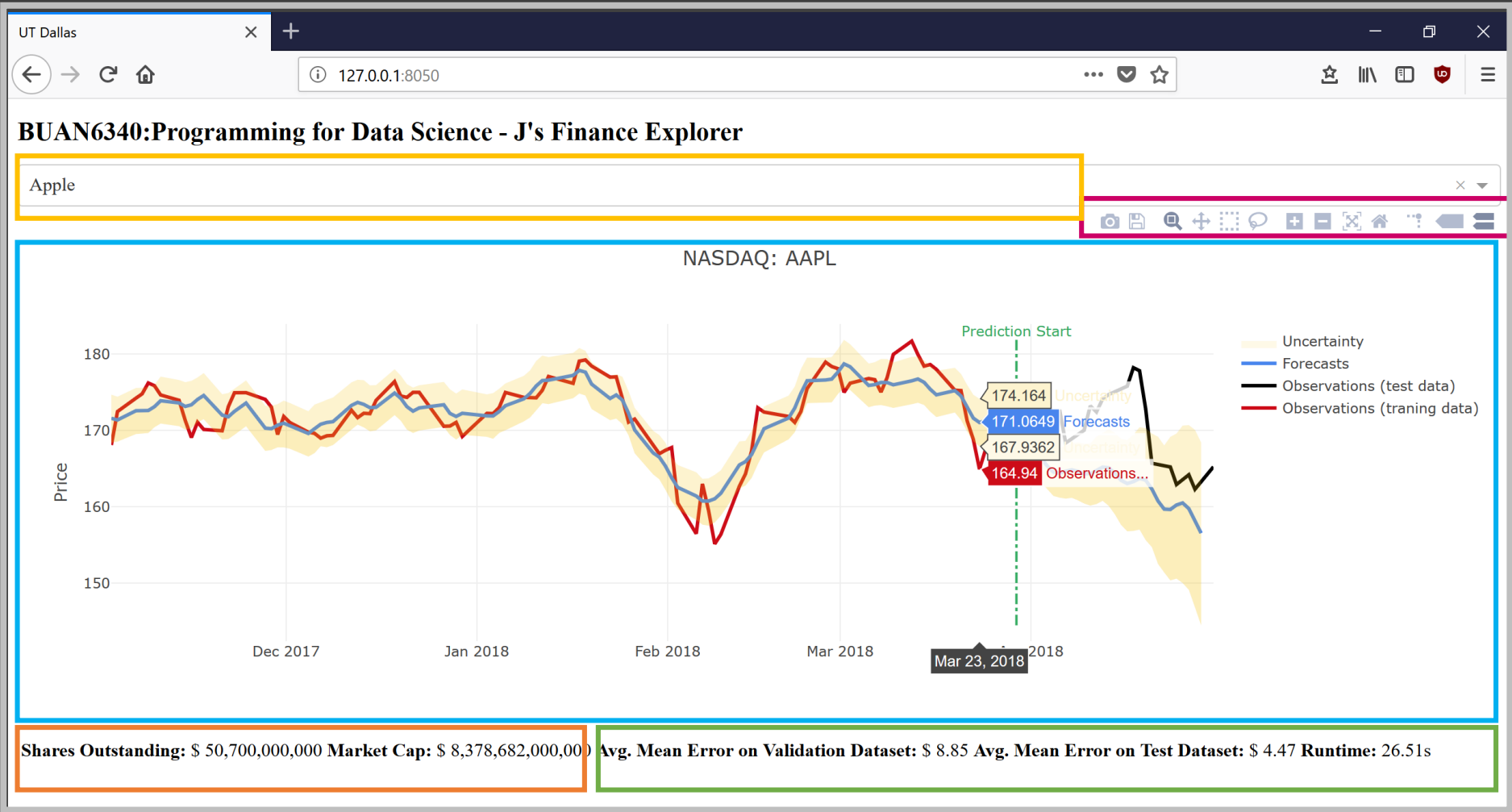
Dropdown
Menu

Data
Visualization

Stock
Information

Tool Bar

Model
Information



J's Finance Explorer *History*

Mar
15

Analyzed Stock Market Raw Data, Researched Trends and Seasonality in Time Series Data

Set up Development Environment – Atom, Auto-Complete-Python, Hydrogen, linterpycodestyle, Github

Mar
23

Started building Finance Explorer 1st version, using Statesmodels, Matplotlib and Quandl online database

Mar.
27

Added Real-time Data Extraction Feature & Visualized Outputs on Interactive Webpage

Apr.
20

Apr.
6

Did Some Research about How to Perform Cross-Validation and Tune Parameters

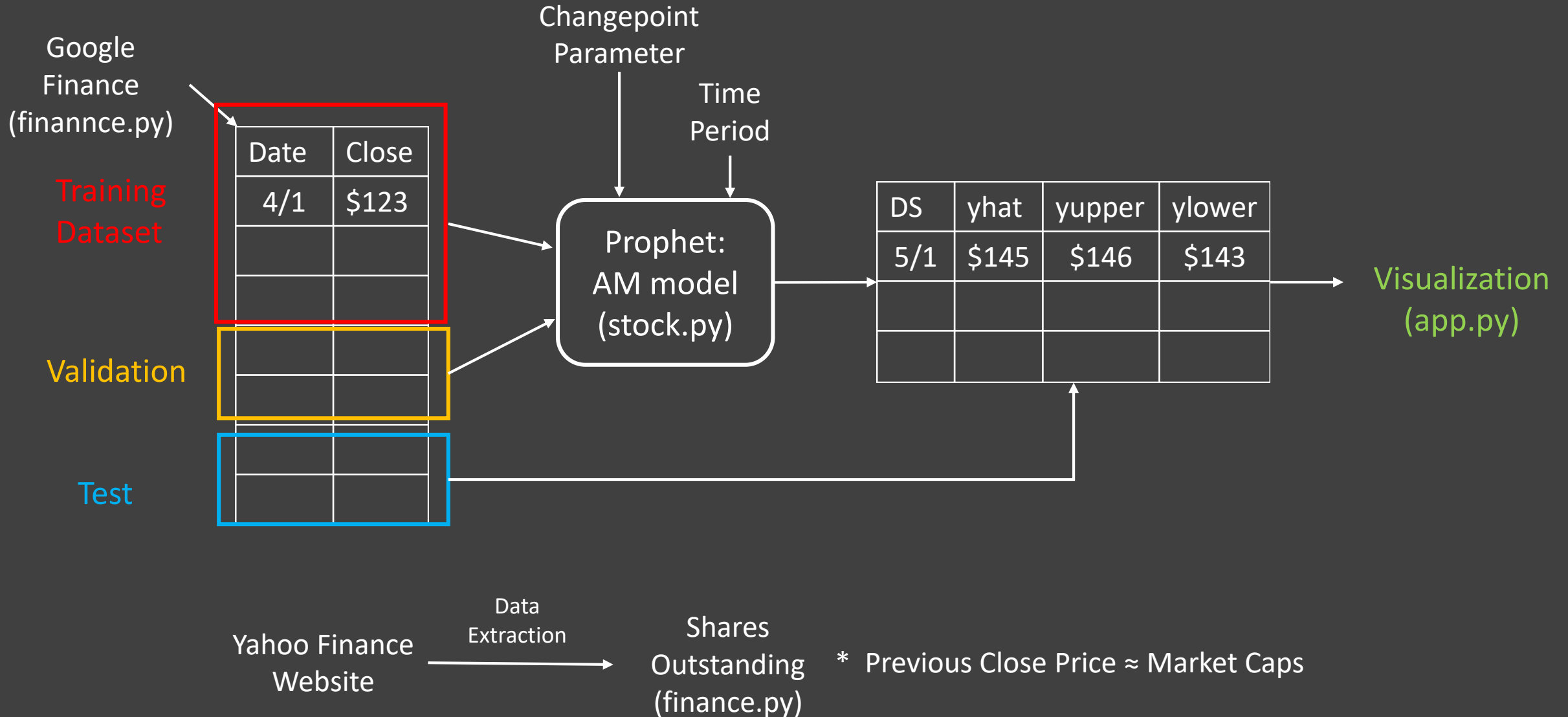
Apr.
15

Employed Prophet to Improve Model & Added Web Scraping Feature and Perform Code Refactoring

Apr.
30

J' Finance Explorer ★

J's Finance Explorer – Framework



J's Finance Explorer – Interesting Things You May Want to Know

- You may encounter a SSL bad handshake error. I have tried to address this in many different ways such as setting SSL verify to false, but Here is the best one: reboot your laptop/pc and run app.py again 😊
- The attribute “data-*” is dynamic in yahoo finance html file. The number (e.g. data-140, data-149) assigned to “Shares Outstanding” changes every time when the page is reloaded.
- The first stock forecast prediction model only had 50% accuracy on trend prediction. (It's like flipping a coin, literally.)

J's Finance Explorer – Things I have been asked

Q: Stock price prediction is not something new, and besides you cannot even compete against those apps designed by Google and Yahoo.

A: I think this topic is really suitable for python beginners and those who want to learn how to do analysis on time-series data. In addition, imputing missing data would take a lot time and efforts because It is not reasonable to just insert mean, median or zero into those N/A cells.

Q: Have you consider adding NLP to analyze news, which would help improve the model accuracy?

A: Brilliant idea

Q: Kaggle is a great platform for data science, which allows you share you work with others.

A: Yes Kaggle is a nice platform and GitHub is a good place too. [GitHub](#)