Stock Price Prediction

QQQ ETF

Outline

Purpose of Analysis

Identify stock trading signals (buy and short) to guide investors in their trading

Data/Method

- QQQ ETF Holdings
- Yahoo finance daily OHLCV
- Alphavantage API

Results

- ARIMA model
- SVM (TBD)
- LSTM (TBD)

Method

Data Collection	Preparing data	Modeling

Historical stock prices

The data collected is from the year of 2009 and goes upto October 2021

Time series

- Checking for stationary data

Time series/ Regression
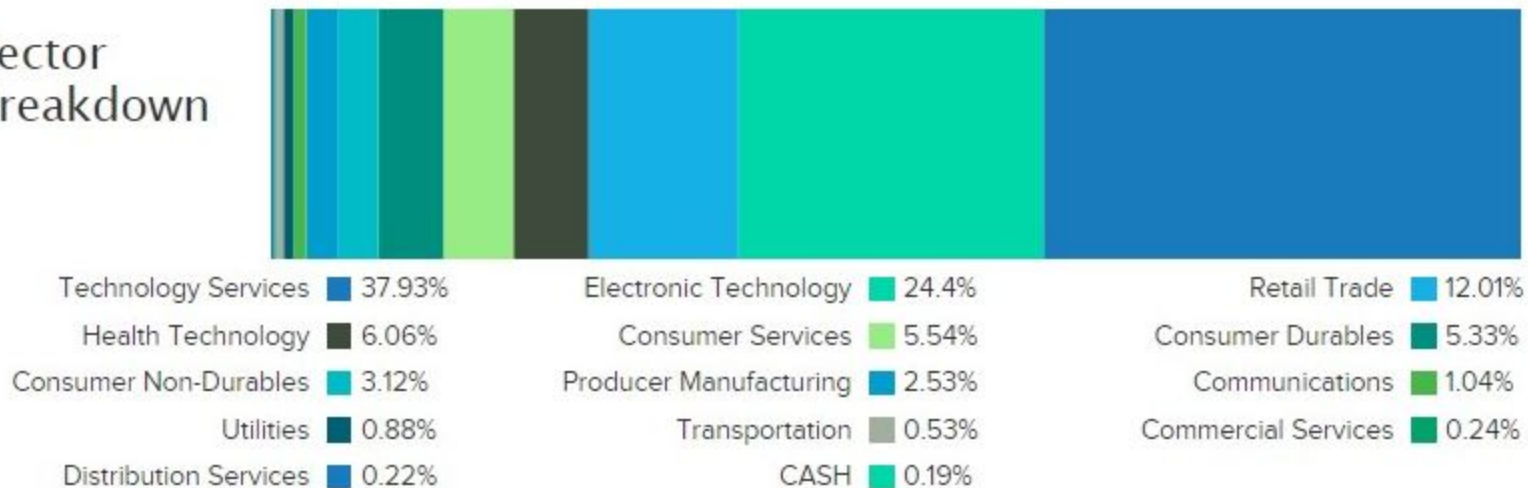
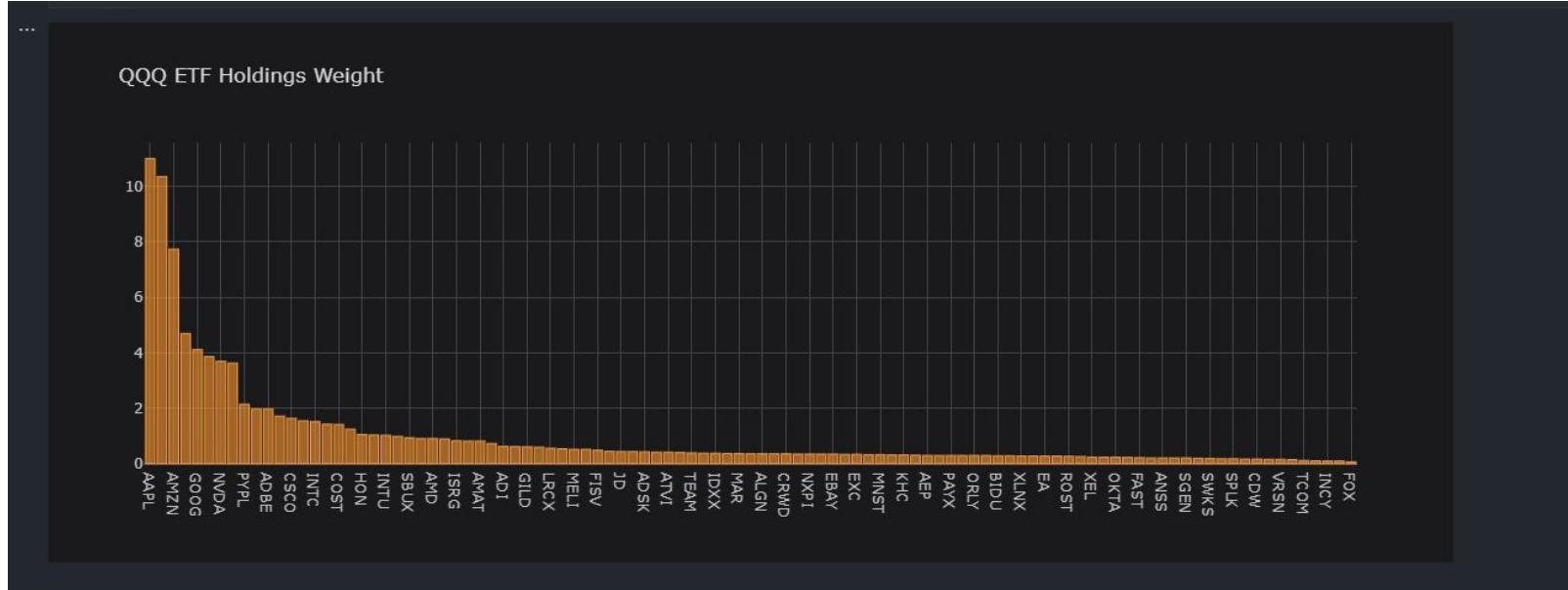- Feature engineering - Technical indicators

Classification/Regression

- ARIMA model tested for one-step ahead forecast
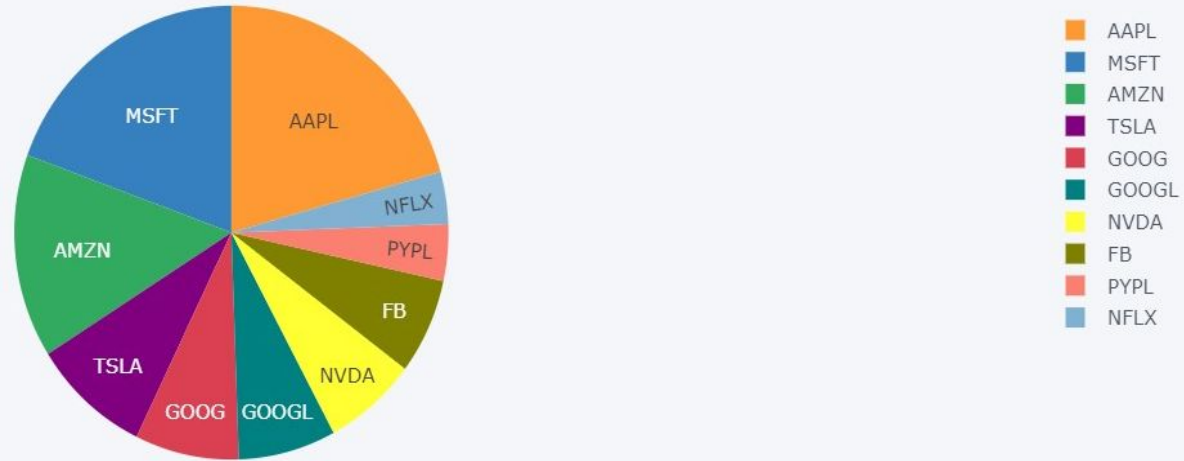- SVM(still to come)
- LSTM (still to come)

QQQ ETF Breakdown

Sector Breakdown

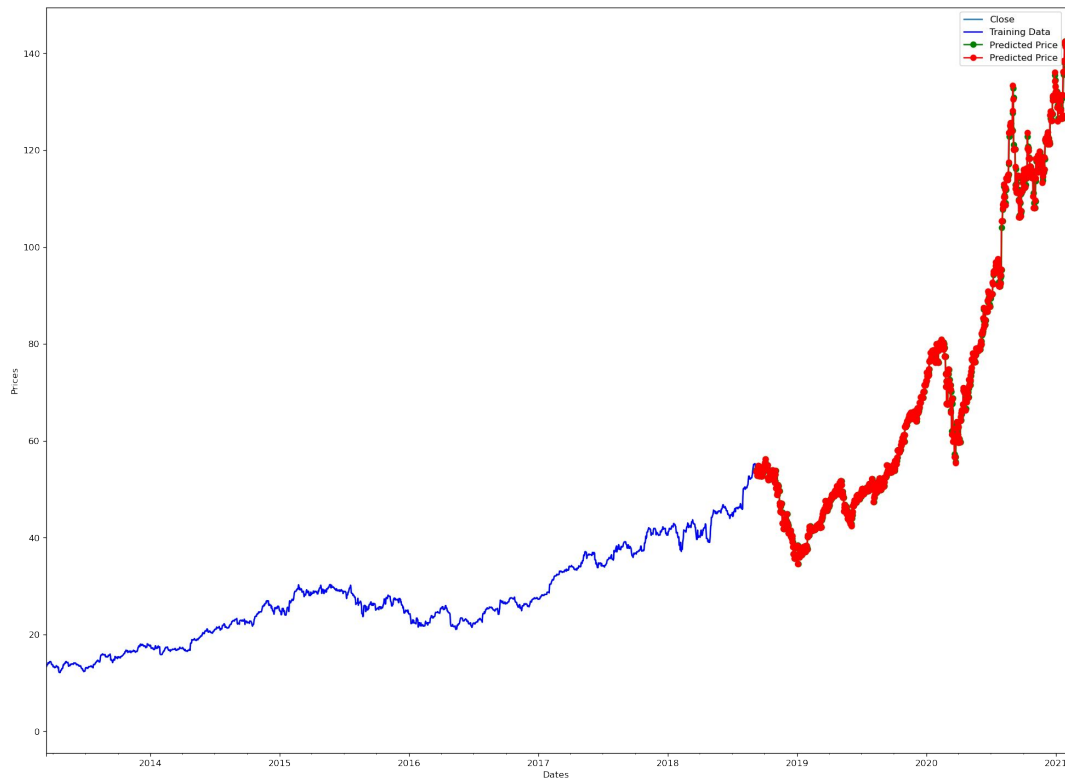| Technology Services | 37.93% | Electronic Technology | 24.4% | Retail Trade | 12.01% |
Health Technology	6.06%	Consumer Services	5.54%	Consumer Durables	5.33%
Consumer Non-Durables	3.12%	Producer Manufacturing	2.53%	Communications	1.04%
Utilities	0.88%	Transportation	0.53%	Commercial Services	0.24%
Distribution Services	0.22%	CASH	0.19%		

QQQ ETF Breakdown

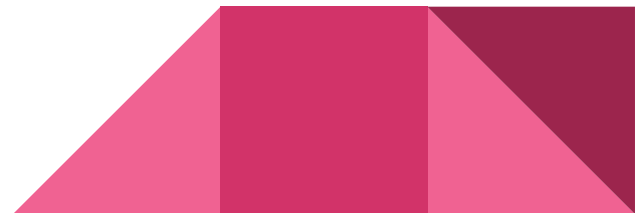# QQQ ETF Breakdown - Top 10

SVM

ARIMA Modeling Performance - AAPL

- The ARIMA model presented an RMSE(Root mean squared error) of 1.56

LSTM

Deployment

Next Steps