



Stock Picker

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INTRODUCTION

This Stock Option Picker is designed to provide stock options from a predetermined list of 30 stocks. The historical prices are analyzed with machine learning to calculate an expected price and determine which option to purchase for the upcoming week.

System Design

Backend is written in Python.
Program is set to scrape 5 year stock price from both Nasdaq and Yahoo.
Code is kept in Jupyter Notebook .

PROBLEM AND REQUIREMENTS

The Bot is a program to make predictions about the movement of a stock based on historical and current data. Program has to be able to down CSV containing the stock data and merge the files to display to the user. The problems it looks to solve are the time constraints and complexity of entering into investing.

SUMMARY

The Stock Picker is meant to assist investors both beginners and advanced to make informed choices on the predetermined stocks that it will analyze. Implementing machine learning with Python to use web scrapers to collect and analyze the historical data will allow for better predictions within the market

```
pred 0.8994994 prediction [0.8998793 0.8986726 0.8991231 0.8987644 0.8997378 0.8994994] stock: dataframe.iloc[1].close 0.1387
buying put fraction: -0.8848072571304977 stock: WDA date: 2023-11-16
buying put fraction: -0.8848072571304977 stock: LLY date: 2023-11-16
buying call fraction: 0.5186952449115594 stock: PFE date: 2023-11-16
ml 0.8867999394218 baseValue: 9.310520283367966 dayIndex: 1256 2023-11-20 22:07:23.901110 1187 seconds
td: SevenDay(index=22, count=45, price=0.4846, predictedPrice=0.15886632968786364, dayIndex=1256, cost=0.4948, call=False) name: WDA
td: SevenDay(index=17, count=45, price=0.58875, predictedPrice=0.2281180768928715, dayIndex=1256, cost=0.58875, call=False) name: LLY
td: SevenDay(index=25, count=45, price=0.42977, predictedPrice=0.4952115572980987, dayIndex=1256, cost=0.42977, call=True) name: PFE
total: 30.0 ml: 0.8867999394218 baseValue: 9.310520283367966 2023-11-20 22:07:23.972786 1187 seconds
```

