

Knight Foundation School of Computing and Information Sciences

Fall 2023 Senior Design Project

Stock Picker

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PROBLEM

There are multiple issues that are faced by investors of financial markets.

- Information Overload
- Time Constraints
- Technical Complexity
- Emotional Decision Making
- Monitoring/Market Sentiment Analysis

INTRODUCTION

The Stock analysis behind the algorithm of the bot addresses multiple issues in an expanding world of information, where the fundamental and technical analysis can get lost due to information overload. Continuous human monitoring of stocks can be tedious, and prone to error. An analysis bot is able to incorporate new information and adapt to market conditions.

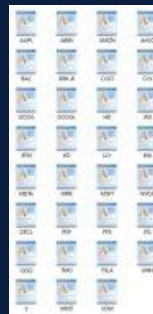
REQUIREMENTS

The bot should be able to aggregate a set of data sources from scraping CSV files that includes financial statements, prices, sentiments, and economic factors from the NASDAQ. Risk management with associated stocks and predictive analysis based on historical data.

SYSTEM DESIGN

The Stock bot is ran using Python that runs Jupyter lab and notebooks that connects to the scraper program. That is supposed to connect to the python client for nextCloud where files can be stored and read.

IMPLEMENTATION



The program scraps together the top performing stocks on the market including indexes. The past 5 years are analyzed and combined together into CSV files that display the picks of what stocks to buy.

SUMMARY

The bot was designed to assist investors to make informed decisions on which stocks to purchase. The bot will systematically scrape and compile CSV files from optimal sources like Yahoo and organizes that data for efficient analysis.