Final Project in Financial data science

The goal of the project is to create 5 different trading strategies for using the Sector ETFs to get good portfolio performance

XLK - Technology

XLE - Energy

XLF - Financials

XLV - Health Care

XLRE -  Real Estate

XLB - Materials

XLY - Consumer Discretionary

XLP - Consumer Staples

XLU - Utilities

XLI - Industrials

IYZ - Telecommunications

You can use technical analysis (Bollinger bands, MACD, RSI, Moving Averages) or any kind of fundamental or macro analysis (based on the interest rate, 10 year yield, unemployment rate, Inflation rate, etc). You can also use News from Yahoo Finance (I showed you in class how to download the articles and do sentiment analysis on them). You can even use analyst recommendations if you manage to scrape them from the web.

You can rebalance your portfolio every day, every week or every quarter. Assume you have 1M$ as initial available cash. You do NOT have to utilize all the cash at each point. Your goal is to rebalance the allocation between the various sector ETFs and the available cash.

You need to describe your strategies, implement them and test them on 3 date ranges:

1. 1.1.2010-now
2. 1.1.2019-now
3. 1.1.2022-now

Rank the 5 strategies for each time range based on their performance.

You need to submit your notebook and related python files that implement the project and a PDF that explain exactly what was done and the experimental results you got using the various approaches you tried.

The project can be done in teams of 2 people.