MACHINE LEARNING IN FINANCE PROJECT
DUE BY AUGUST 15 at 6:00PM EST

GOAL

Teams of 4-6 students will construct an investment strategy designed to achieve a group-defined objective. The strategy can be "buy-and-hold" or "market-timing" based on a machine learning model.

DATA

Groups will be given historic return data for a collection of securities (ETFs). There are two pickle data files. The first is the in-sample data which runs from 2014 to 2019. This data represents historic returns that are available at the time you are constructing the strategy. You will train your model based on the in-sample data. The second data file is the out-of-sample data, 2019-present, that represents the future returns generated by the various ETFs. These returns are unknown at the time the machine learning model is constructed.

DELIVERABLE

Groups are to deliver a Jupyter Notebook presentation that your group will use to sell your strategy and model to prospective investors. The sales pitch should include your

1. Introduction of your Machine Learning Model – This should address how your model works.
2. Portfolio Details: Explain the portfolio construction methodology and the choice of ETFs.
3. Performance Summary: How well does the strategy work in-sample and out-of-sample?

You should include performance details including risk and return measures as well as any portfolio-specific measures to demonstrate that your portfolio achieves its objective.

Submit your final presentation to https://brightspace.cuny.edu/.

FINAL COMMENT

In terms of the machine learning model, there is no right or wrong answer. Think carefully of what you think will add value to an investor.