Incorporation.AI offers a range of AI solutions depending on the complexity from single purpose AI.Minion to multifunctional AI.Worker and digital clones with AI.Factory for enterprises that want to harness the power of AI and their existing teams to succeed in today's Intelligence Revolution

Incorporation.ai

Stock Portfolio Management

Project Goals

There were three main goals in this project: First, to use state-of-the-art machine learning (deep learning) techniques that would predict the behavior of stock return.

Secondly, to determine what stocks to buy, hold and sell based on the stock predictions.

Solution Design

For the analysis and development of our Machine learning model, we selected the top 50 Stocks from the S&P 500 stock list. Yahoo Finance was tapped for historical data.

After pre-processing, we used a deep learning neural network called **Bi-LSTM**.

Some of the hyper-parameters used were:
Number of units
Dropout rate
Type of optimizer, etc.

Finally, to construct a portfolio that would outperform the S&P 500 buy-and-hold benchmark without incurring any additional risk.

Outcomes

A set of back-tests based on prediction results were conducted for the bull as well as bear market conditions.

For bull market, a long-short strategy based on equal-weighted portfolios outperformed the benchmark return with similar systematic risk as the market.

For the bear market scenario, the equal-weighted portfolio achieved over 15% excess return with marginally higher systematic risk than the market.

For the bear market scenario, the equal-weighted portfolio achieved over 15% excess return with marginally higher systematic risk than the market.

Finally, to construct a portfolio that would outperform the S&P 500 buy-and-hold benchmark without incurring any additional risk.

What AI can do for you?

Business Planning
Decision-making Insights
Customer Insights
Process Automation

Industries we Serve

Agriculture
Automotive
CPG
E-Commerce

Healthcare
Real Estate
Food
Many more

1.416.574.3800 | sarb@incorporation.ai | www.Incorporation.AI