


For this project I used multiple LLMs to try and predict stock specifically I used the AAPL stock ticker for easy usability as an example. I used the yfinance python library for python stock data from Yahoo Finance.


## Problems

1. I had trouble implementing the libraries onto my machine because I use pycharm so I had to pivot and use google colab to use the libraries correctly. I reinstalled pytorch multiple times on my machine and I am still stumped as to why it did not work but it did end up working in Colab.
2. Next the original LLM I wanted to use was Meta Llama-3.3 which was protected on huggingface so I had to request access to use it.
3. Even utilizing GPU which I had to create a second version of my project as seen in the Git repository, the larger LLMs were still slow to load and did not work as I did not have enough GPU and hard disk space even with the pro version of google colab.
4. I pivoted to smaller LLMs such as ChatGPT2 which did not analyze my prompts to utilize the stock data and create a prediction for tomorrow's price and I ended up with numbers that made no sense. I uploaded as screenshot sample below of the nonsensical numbers GPT2 gave me. The price predicted is 2025 when the stock is currently in the 200s range.

```

Loading LLM model...

model.safetensors: 100%  6.43G/6.43G [01:21<00:00, 131MB/s]

generation_config.json: 100%  124/124 [00:00<00:00, 10.1kB/s]

Setting `pad_token_id` to `eos_token_id`:50256 for open-end generation.
Predicting stock price...
Price           Close           High           Low           Open           Volume
Ticker          AAPL           AAPL           AAPL          AAPL           AAPL
Date
2025-03-19  215.240005    218.759995    213.750000    214.220001    54385400
2025-03-20  214.100006    217.490005    212.220001    213.990005    48862900
2025-03-21  218.270004    218.839996    211.279999    211.559998    94127800
2025-03-24  220.729996    221.479996    218.580002    221.000000    44299500
2025-03-25  223.750000    224.100006    220.080002    220.770004    34493600
Predicted next closing price for AAPL: 2025.0

```

For the larger LLMs such as Llama-3.3 and DeepSeekV-3 which I did try as well the CPU on the free version of colab did not suffice and I ended up purchasing the pro version of colab in hopes that the GPU on the pro version would work in colab for this project. Sadly it did not and I had to end up using ChatGPT2.0 a very basic model that was easy to load.