

# Predicting stock prices using deep learning

This report and series of experiments I did are based on the following medium article

<https://towardsdatascience.com/getting-rich-quick-with-machine-learning-and-stock-market-predictions-696802da94fe>

## Background

I was interested in exploring the simple patterns in different stocks traded while exploring the applications of deep learning in different contexts. I primarily focused on two aspects of the whole project:

1. Getting data from an API and preprocessing to enable anyone to run simple ML algorithms on it.
2. Writing a simple model and exploring how different parameters affect different outcomes in the pattern without overfitting

## Methods

### 1. Data Processing

I used data from AlphaVantage. They do not have unlimited request so I downloaded the daily trading data for the last 20 years for Facebook and Microsoft. I then saved them as .CSVs before making them into datasets. AlphaVantage has a python Wrapper to the api thus I did not need an explicit network api request.

### 2. Model

I explored the use of Long Short Term Memory Cells like mini neurons in Neural networks as described in the medium article. I followed the tutorial and was able to compute the error rates and accuracy while using 18 years training datasets.

## Conclusion.

Moving forward I would like to research further on using Keras and understanding the core functions of LSTMs and further build this for more insights.