

Movement_Prediction

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1 Predicting Future Movement Stock Using Momentum Statistics

The purpose of this is the development and testing of using 6 momentum based trading signals to predict next day momentum buy/sell/hold signals.

The inspiration for this is from this [article](#).

1.0.1 Summary of results

Initial testing with the trading signals used gave a return of 48.8% when trading on the SP500. Using a Keras model inspired by the one written in the article, results got up to 55% returns.

```
In [526]: import pandas as pd
import numpy as np
import keras
from keras.models import Sequential, load_model
from keras.layers import *
from keras.optimizers import Adam
from keras import initializers
import os
import csv
import pickle
import math
import random
import matplotlib.pyplot as plt
from sklearn import preprocessing

#standard adam optimizer for neural networks
adam = Adam(lr=0.0001, beta_1=0.5)

In [221]: with open("sp500tickers.pickle", "rb") as f:
tickers = pickle.load(f)
#adding in extra tickers that aren't in the sp500
#sp500tickers.pickle contains the sp500 scraped from wikipedia
tickers.append('CGC')
tickers.append('CRON')
tickers.append('TLRY')
tickers.append('VMW')
tickers.append('CRON')
```