

Stock Analysis & Fund Allocation using ML tools

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Data Acquisition and Preparation:

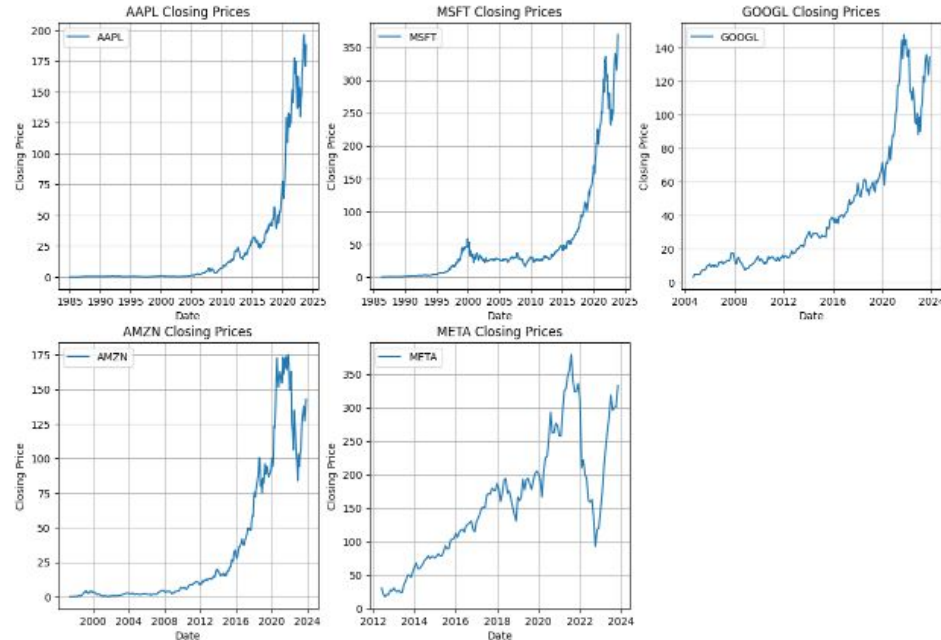
YAHOO!
FINANCE *for*  **python**™

Data Acquisition and Preparation:

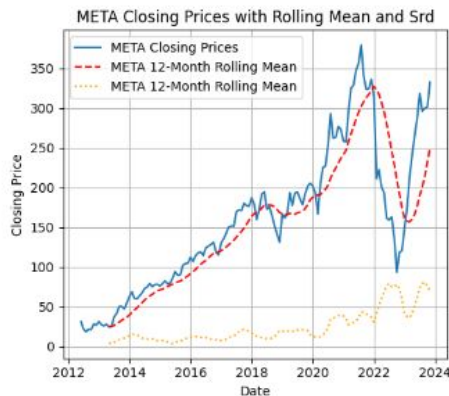
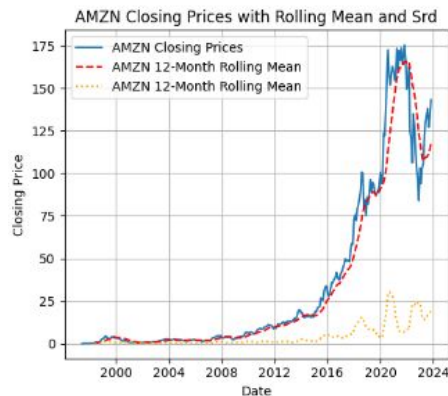
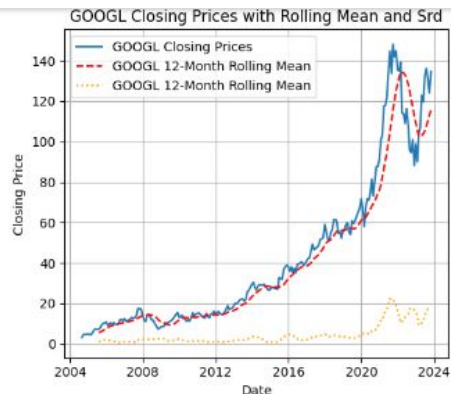
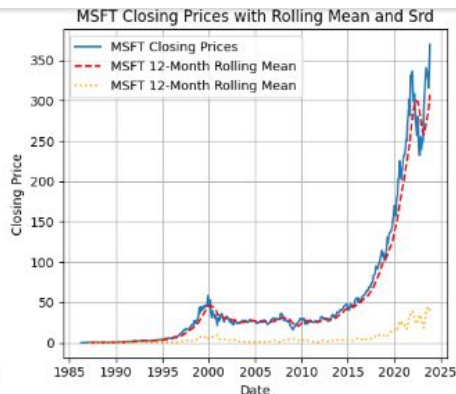
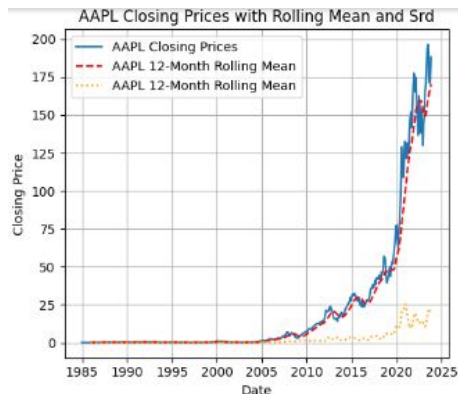
Stocks of Interest: Apple, Meta, Amazon, Google, Microsoft.

Stock prices for past 50 years is collected and visualized.

Historical Monthly Closing Prices



Statistical Analysis, Stationary test using Rolling Mean:



Statistical Analysis, Stationary test using ADF Method:

ADF Test Results for AAPL (Index 0):
ADF Statistic: 2.0873915105910172
p-value: 0.9987762842138527
Critical Values: {'1%': -3.444965543297668, '5%': -2.8679842369272976, '10%': -2.5702025382716047}
Fail to reject the null hypothesis. The time series may not be stationary.

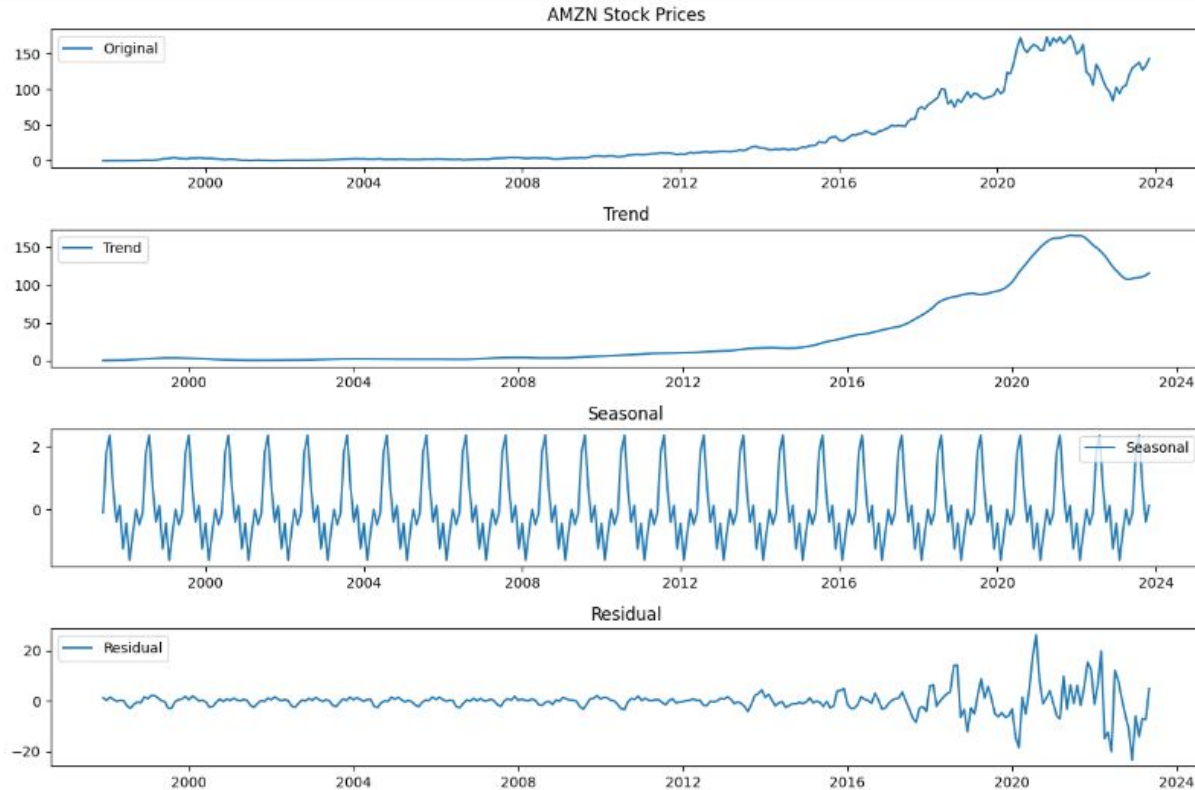
ADF Test Results for MSFT (Index 1):
ADF Statistic: 2.447288035958361
p-value: 0.9990308541521641
Critical Values: {'1%': -3.445542818501549, '5%': -2.868238133603207, '10%': -2.5703378690483176}
Fail to reject the null hypothesis. The time series may not be stationary.

ADF Test Results for GOOGL (Index 2):
ADF Statistic: 1.1926380548955156
p-value: 0.995934622336358
Critical Values: {'1%': -3.4609922013325267, '5%': -2.875015740963014, '10%': -2.5739524288408777}
Fail to reject the null hypothesis. The time series may not be stationary.

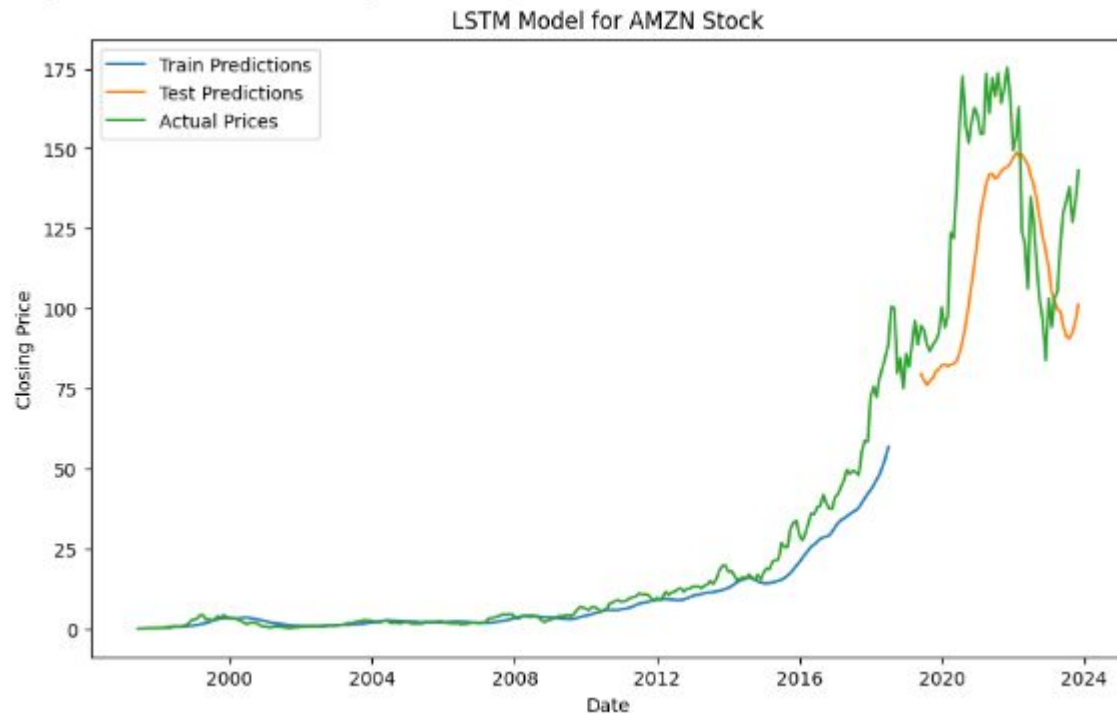
ADF Test Results for AMZN (Index 3):
ADF Statistic: 0.06430173188034007
p-value: 0.963537578179066
Critical Values: {'1%': -3.4521902441030963, '5%': -2.871158406898617, '10%': -2.5718948388228586}
Fail to reject the null hypothesis. The time series may not be stationary.

ADF Test Results for META (Index 4):
ADF Statistic: -1.7496209059529022
p-value: 0.40574448311015243
Critical Values: {'1%': -3.480500383888377, '5%': -2.8835279559405045, '10%': -2.578495716547007}
Fail to reject the null hypothesis. The time series may not be stationary.

Statistical Analysis, Extracting Trend, Cyclical and patterns



RNN Model, for Predictions:



To DO:

Based on Above results get a right strategy to invest and allocate funds in the above stocks.

For example if we want to invest **100k\$** in above stocks what would be amount that needs to be invested



THANK YOU