

Nvidia Stock Prediction with Time Series Models

Kibae Kim




Overview & Business Problem

Overview

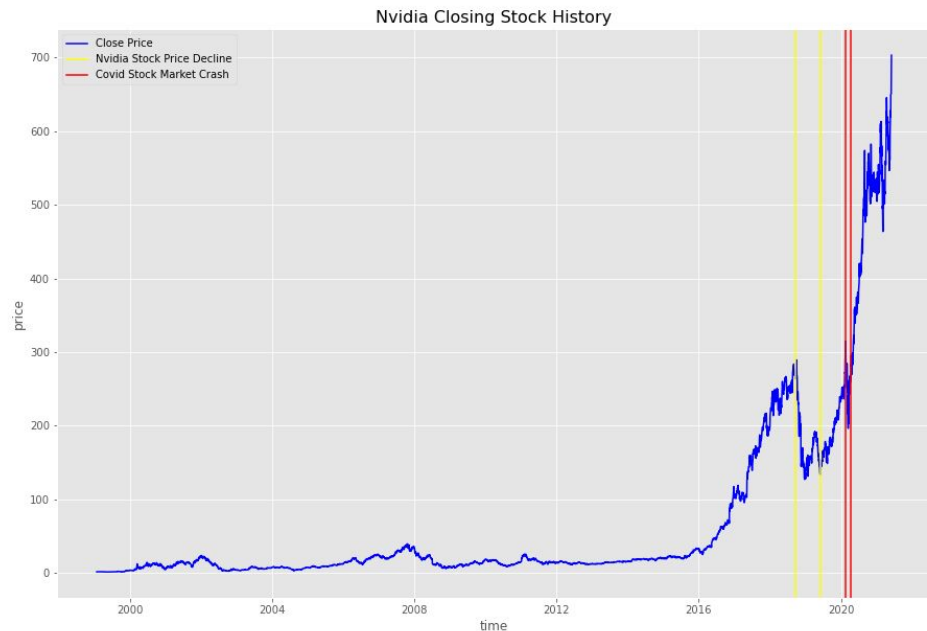
2021 is called the year of cryptocurrency. Cryptocurrency is a digital currency that can be used to purchase goods and services, but it uses an online ledger with strong encryption to secure your online transactions. The popularity of cryptocurrency caused a shortage in the graphics card market. At the same time, it leads increasing of a graphics card supplier, Nvidia.

Business Problem

This project aims to provide a updated time series forecasting for investment banks to predict better Nvidia future stock price.



Data - Nvidia Closing Stock History



09/16/2018 ~ 06/01/2019

- Slowing global economy
- Trade war
- Poor future expectation

02/20/2020 ~ 04/07/2020

- 2020 stock market crash

Data - Exogenous Variables

Exogenous Variables

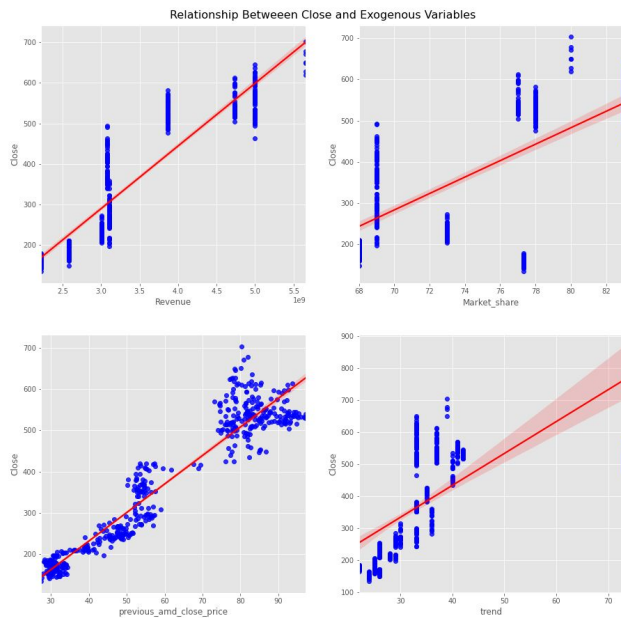
Positive Relationship

Revenue

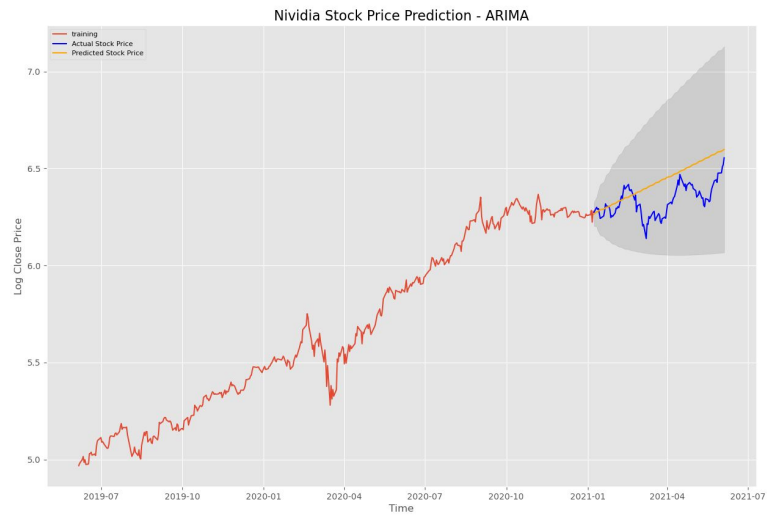
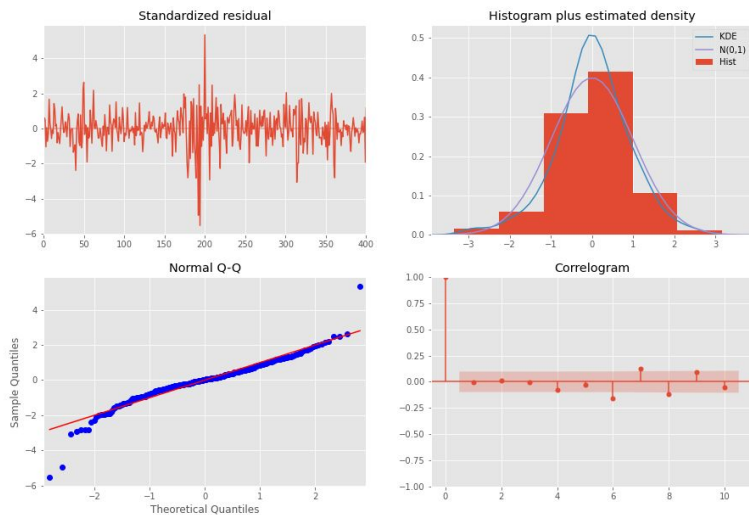
Market share

Previous day AMD stock close

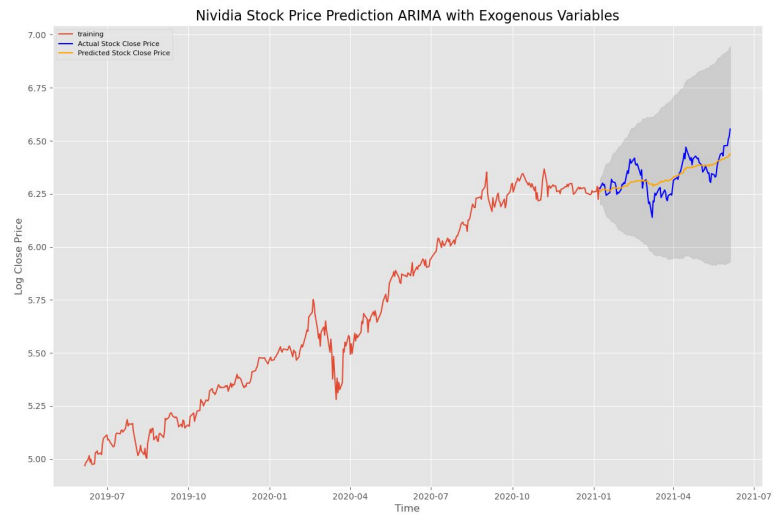
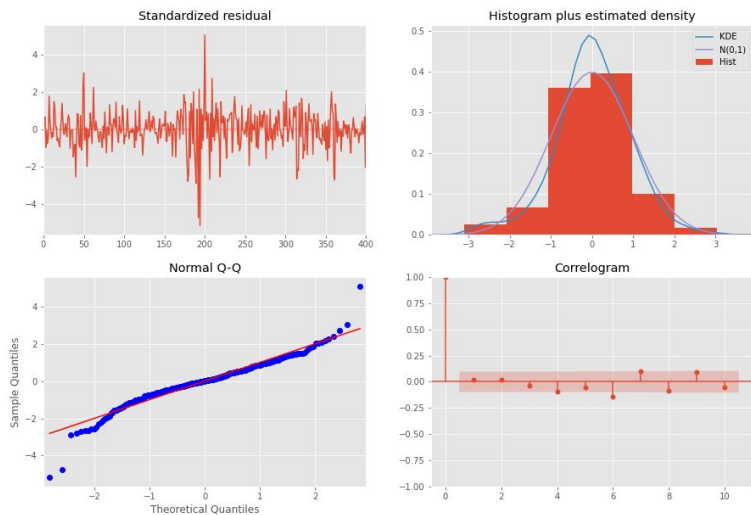
Google trend



Model 2 - ARIMA



Model 2 - ARIMA with Exogenous Variables



Conclusion

Model Compare(*Best model)

	ARIMA	ARIMA with Exogenous Variables
RMSE	0.13	0.05
%RMSE	0.0203	0.0086

Conclusion

- I chose ARIMA with Exogenous Variables model because its RMSE is higher than ARIMA model.
- The project will help investment banks to predict Nvidia's future stock prices.

Next Step

- Find other independent variables which can make our model more accurately
- Find different method of data cleaning
- Find the way to improve precision from our final model