Time Series Forecasting using ARIMA Model

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1 Abstract

A time series is a sequence of observations recorded over a certain period of time. Examples of time series can be different temperature changes day by day or in a month, Monthly sales of a store or Stock prices over a period of time.

In this project I will be using an ARIMA Model to make a forecast of prices of stocks. ARIMA or Autoregressive Integrated Moving Average, is a statistical analysis model that uses time series data to either better understand the data set or to predict future trends. ARIMA Model has 3 components Autoregression(AR), Integrated(I), Moving Average(MA).

I will be using NIFTY 50 Stock market dataset from kaggle.
https://www.kaggle.com/rohanrao/nifty50-stock-market-data

To improve the accuracy of this model we can make a hybrid ARIMA Model combining it with some Machine Learning or Deep Learning models. I have not came up with the exact method which i will be using to improve performance yet.

References:

- A. A. Ariyo, A. O. Adewumi and C. K. Ayo, "Stock Price Prediction Using the ARIMA Model," 2014 UKSim-AMSS 16th International Conference on Computer Modelling and Simulation, 2014, pp. 106-112, doi: 10.1109/UKSim.2014.67.