

# Time Series Forecasting using SARIMA Model

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## Abstract

Sales forecasting is a most important application in industries and has been one of the most scientifically and technologically challenging problems around the world. Accurate prediction of Sales parameters is a difficult task due to its dynamic nature. Generally prediction is done on Time series data. A time series is a sequence of observed values of some entity that is measured at different points in time.

In this project I will be using SARIMA (Seasonal Autoregressive Integrated Moving Average) Model to predict the future sales of a Super Market. SARIMA model is an extension to ARIMA model and is used on the time series data which shows seasonality in its trend.

In addition, I will also be applying ARIMA combined with LSTM (Long and short term Memory) Network on the dataset in order to improve the accuracy and make comparisons.

## Datasets used

<https://www.kaggle.com/rohitsahoo/sales-forecasting>

## References

- Ruchir Kulkarni, Milind Rane, "Pattern Recognition Product Sales Analysis Using SARIMA Model in Time Series Forecasting" in 2020 International Journal of Science and Research (IJSR), DOI : 10.21275/SR20430171526
- Yuxua Han," A forecasting method of pharmaceutical sales based on ARIMA-LSTM model" in 2020 5th International Conference on Information Science, Computer Technology and Transportation (ISCTT), DOI:10.1109/ISCTT51595.2020.00064