Stock Price Prediction

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Can a neural network predict the performance of a company's stock?

In this project we are going to find out the answer using a recurrent neural network with LSTM layers, a particular kind of network that is well suited to time series.

We are going to be building sliding windows (input) on the dataset such that, to predict the i-th closing price(output), the model analyzes the previous i-th-n features, including the closing prices.

Basically the model looks back in time and based on previous observations it will predict future values.

The project will follow the following steps:

1. Import of the dataset
2. Research of the statistical indicators more suitable to the prediction of the closing value
3. Using a correlation matrix to keep the most relevant features and dropping the others
4. Preprocessing of the data and creation of the sliding windows
5. Build and train the model
6. Forecasting
7. Evaluation of the results through MSE,MAE, RMSE and MAPE and R^2
8. Conclusions

The original contribution was creating from scratches a brand new neural network able to predict stock prices of a specific firm: Pfizer.

The project is available on the following link:

GitHub - MarcelloTurri/StockPricePrediction: In this work we are going to be building a model that predicts stock prices through a neural network.

In this work we are going to be building a model that predicts stock prices through a neural network. - GitHub - MarcelloTurri/StockPricePrediction: In this work we are going to be building a model that predicts stock prices through a neural network.

https://github.com/MarcelloTurri/StockPricePrediction