

# Deep learning in stock market based on long short term memory technique

## Abstract

Stock market prediction has always been crucial for stakeholders, traders and investors. Investors make decisions based on various factors, including consumer price index, price earning ratio,....We developed an ensemble Long Short Term Memory (LSTM) model that includes two time frequencies (annual and daily parameters) in order to predict next day Closing price (one step ahead).

## Introduction

To assist investors' decisions, machine learning approaches have long been studied to automatically analyze vast amounts of financial information, such as past stock prices. We aim to use a Long Short Term Memory ensemble method with two input sequences, a sequence of daily features and a second sequence of annual features, in order to predict the next day closing price and make a better decision in trading.

## Data

The database choose for this research contains New York Stock Exchange S&P500 data, publicly available at <https://www.kaggle.com/dgawlik/nyse>

## References

- 1- Lanbouri.Z, Achchab.S “A new approach for Trading based on Long-Short Term memory technique”
- 2- Gonçalves.A , Ribeiro.V.M , Pereira.F.L , Paula Rocha.A “Deep learning in exchange markets”
- 3- Yoshihara.A, Fujikawa.K, Seki.K, Uehara.K “Predicting Stock Market Trends by Recurrent Deep Neural Networks”

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