FIN-407 Machine Learning in Finance

Mini project 2 - Trading algorithm

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Research question: You would like to build a trading algorithm for the Tesla stock. The algorithm will be trained on past data, and will predict, every day, if the Tesla stock will go up or down in the coming day.

Main goal: Extract information from past data that can be used as trading signal.

Data: Past prices of Tesla can be obtained from Yahoo Finance `https://fr.finance.yahoo.com/quote/TSLA/`.

Part 1

Data exploration

The aim of this part is to think about which data can be used as input features for the trading algorithm. You do not need to use text data at this stage (we will do this later), but you can think about some text data that could be used as an improvement of what you will first build. Numerical data include, for example, accounting data. You can also use categorical data (e.g., the sector).

The findings of this part will be presented at the beginning of Lecture 6, by a group that will be randomly drawn after Lecture 5. The presentation will last about 5 minutes. Then we will have a 5-minute discussion, in which other groups can talk about their other findings (if any), building on the presentation given.

Part 2

Classification

In this part, you will try to build a model for price direction, using the classification algorithms that we have seen in class.

The findings of this part will be presented at the beginning of Lecture 7, by a group that will be randomly drawn after Lecture 6.