

Internship - Financial Forecasting With Deep Learning

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1 Description

In this internship, we propose to study the problem of financial forecasting, i.e., predicting the future variation of the price of a financial instrument, using deep learning. The student will work on a new data source with a finer granularity than existing datasets. Because of the difficulty of obtaining data, previous works focused on price prediction at the scale of a day, a week, or a month. Our new dataset contains intraday information. Therefore, we can predict the price within a day and use multi-scale analysis. Besides, our new dataset contains different kinds of financial instruments (FOREX, crypto, options, futures) and additional information about the companies (description, financial reports, dividends).

2 Planning

The intern will start with state-of-the-art methods used for financial forecasting. The goal will be to study the existing datasets and models and to find their limitations. In parallel, they will get used to the structure of the data. Then, we will propose a new method to compare to other baselines. The end goal of this project is to publish a paper at an international conference.

3 Prerequisites

The intern should be involved in a master's program and have a good knowledge of machine learning, deep learning, and data processing. A good understanding of Python and the standard libraries used in data science (scikit-learn, PyTorch, pandas) is also expected. A previous experience with finance is appreciated but not required for this internship.

4 Work Environment

The internship will take place at Telecom SudParis, in Palaiseau. The intern will join the computer science department. The internship is paid and will last six months.

If you are interested, please send me your resume, a transcript of your grades, and a cover letter (in French or English).