

## Abstract

In the last years, the field of machine learning boomed. That led to its numerous forecasting applications on prices of Foreign exchange market. Researchers there mostly compare neural networks to linear model baselines. The contribution of this thesis consists of a comprehensive performance comparison between two promising machine learning methods, Support vector regression (SVR) and Long short-term memory recurrent neural network (LSTM RNN), in the forecasting of six highly traded currency pairs on one minute univariate time series data. First, it analyses methods' performances in the forecasting of one step ahead price while varying input dimensions of these methods. Next, it examines how methods perform in longer forecasts, that enabled by using a recurrent version of SVR. In the first analysis, LSTM RNN outperforms SVR in most of the cases several times. Performance of SVR is robust to varying input while LSTM RNN's performance fluctuates across dimensions. In the second analysis, LSTM RNN beats SVR mostly by order of magnitude. With increasing forecasting horizon, SVR's performance gets worse and LSTM RNN's performance remains stable.