Public Abstract
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In this research, we deal with a sub-architecture of Recurrent Neural Network(RNN), Long Short-Term Memory(LSTM), in U.S stock market forecasting. The purpose of this research is to examine the feasibility of LSTM in stock market forecasting. We optimize the LSTM model by testing different configurations (neurons in hidden layers and number of samples in sequence). Instead of using daily stock price data, we collect hourly stock data from IQFEED database in order to train our model with relatively low noise samples. Nevertheless, based on the prediction results of LSTM model, we build up a stock portfolio with six U.S market stocks from five different industries. The average test accuracy of these six stocks is 54.83%, where the highest accuracy is at 59.5% while the lowest is at 49.75%. Simulated trading model was proposed to evaluate the performance of our model by investing the portfolio within a period of 400 hours, the total profit gained by the model is $413,233.33 with $6,000,000 initial investment.