Predicting the Price of Bitcoin using LSTM Recurrent Neural Network

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Abstract: *In this paper, we tried to estimate the Bitcoin price precisely taking into consideration various parameters that affect the Bitcoin value. In our work, we pointed to understand and identify daily changes in the Bitcoin market while obtaining insight into most appropriate features surrounding Bitcoin price. We will predict the daily price change with highest possible accuracy. The market capitalization of publicly traded cryptocurrencies is currently above $230 billion. Bitcoin, the most valuable cryptocurrency, serves primarily as a digital store of value, and its price predictability has been well-studied. For the first phase of our investigation, we aim to understand and identify daily trends in the Bitcoin market while gaining insight into optimal features surrounding Bitcoin price. Our data set consists of various features relating to the Bitcoin price and payment network over the course of five years, recorded daily. For the second phase of our investigation, using the available information, we will predict the sign of the daily price change with highest possible accuracy with deep learning algorithm such as long short term memory for greater accuracy. Compared with benchmark results for daily price prediction, we achieve a better performance, with the highest accuracies of the statistical methods and deep learning algorithms. Deep Learning models includes Long Short-Term Memory in RNN for Bitcoin price prediction are superior to statistical methods.*

Keywords: Bitcoin, Machine Learning, Recurrent Neural Network, Deep Learning, Long-Short Term Memory, etc

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