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BITZ - Cryptocurrency Price Prediction

A Dissertation by

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Abstract

Nowadays, bitcoin has become the most popular and go to cryptocurrency, which has gained a like from both investors and speculators. The untraceable and uncontrollable nature of bitcoin is what attracts millions of people each year. Most of the research which is done in this particular domain is assigned to predicting the price of the cryptocurrency depending on past price inflations. In this research the price prediction of bitcoin is performed by five different algorithms which are elastic net regression, ridge regression, multilayer perceptron, xgboost and lightGBM. The sentiment dataset consists of both twitter and reddit data. In the training phase randomized search cv and grid search cv is used to find the best performing parameters for the mode independent to the data set. The final model is based on stacking therefore the estimators for the final models are lightGBM, ridge regression, elastic net regression, multilayer perceptron and xgboost as the meta-learner.

Keywords: Bitcoin, Cryptocurrency, Machine Learning, LightGBM, Ridge Regression, Elastic Net Regression, XGBoost, Multilayer Perceptron, Prediction model