

CS_6000 New Mexico Highlands University

Topic 1: Role of Cryptocurrency Mining and Trading Companies on the Price of Bitcoin

To analyze the role of cryptocurrency mining and trading companies on the price of Bitcoin

using the dataset obtained from historical stock prices and BTC price from Yahoo Finance, we

need to preprocess the data to remove duplicate entries and irrelevant features.

Topic 2: Cryptocurrency Fraud Detection

For this study the dataset is publicly available on Kaggle website, and it focuses on the fraud

detection in trading with cryptocurrencies (ETH). The dataset comprises various features related

to cryptocurrency transactions and addresses, particularly focusing on Ethereum (ETH). Each

row represents a unique Ethereum address (Address) and contains information such as average

time between sent and received transactions, time difference between the first and last

transaction, the number of created contracts, and various metrics related to ERC20 tokens sent

and received. The dataset is cleaned by removing irrelevant columns and duplicates based on the

Ethereum address. It is structured to analyze the behavior and activities associated with different

Ethereum addresses, providing insights into cryptocurrency transactions and interactions. The

data is pertinent for studying the role of cryptocurrency mining and trading companies on the

Ethereum blockchain.

Topic 3: Predicting Cryptocurrency Prices using Machine Learning

The provided dataset from Yahoo Finance contains historical price data for three major

cryptocurrencies: BTC (Bitcoin), ETH (Ethereum), and BNB (Binance Coin) for specific dates.

The dataset includes the following columns:

Date: The date of the price data.

Open: The opening price of the cryptocurrency on that date.

High: The highest price of the cryptocurrency on that date.

Low: The lowest price of the cryptocurrency on that date.

Close: The closing price of the cryptocurrency on that date.

Adj Close: The adjusted closing price, which accounts for events like dividends or stock splits.

Volume: The trading volume (number of coins traded) on that date.

To use this dataset in machine learning (ML) to predict the prices of BTC, ETH, and BNB

The goal is to develop accurate predictive models that forecast the prices of BTC, ETH, and BNB based on historical price data and relevant features. The accuracy of predictions will be influenced by the choice of features, model selection, and the quality of the dataset. Additionally, incorporating advanced techniques like time series analysis and deep learning can enhance the accuracy of predictions for cryptocurrency prices.