NFTs - Cryptocurrency Energy Consumption, Environmental Concerns and Price Volatility Research

Bitcoin   Ethereum   Dogecoin   Non-fungible token   Cardano   Litecoin

Data Analytics Tools

- Presentation - Google slides, Tableau, Github- Readme.md
- Github - Code and images
- Machine Learning Model - Energy consumption using LSTM
- Database - Postgresql
- Dashboard - Google Slides, interactive tool using flask
- https://github.com/jcsargis00/NFT-Research

Presentation

Purpose - to research if there are real environmental and financial concerns using cryptocurrency to mint and sell NFTs.

Background - NFTs have been linked to cryptocurrency blockchains. It is not a technical requirement to use cryptocurrency to mint and sell NFTs. This project researches environmental and volatility concerns with cryptocurrency and presents an alternative solution

Glossary - terminology for NFTs, cryptocurrency, websites tracking currency, NFT examples

References - Why do cryptocurrencies use so much energy? Charts with data

How does cryptocurrency work? - illustration

How much energy do Ethereum and Bitcoin use globally? Charts from projects

Github

Storage of code, data, images for analysis and machine learning model

Examples included:

- database files, csv files for tracking 8 types of cryptocurrency
- Interactive model to look at 4 different cryptocurrencies using Flask
- Model to scrape prices of 4 different cryptocurrencies for 99 days using Beautiful Soup
- Reference articles from Nature and the ACM
- Machine Learning model connected to a database or using CSV files to predict energy consumption

Database

Financial data from Coin Gecko, Coin Market Cap, Yahoo Finance

Schema for crypto pricing tables and interactive charts

- Symbol - symbol for which the time series data refers
- Open - the opening price of the time period
- High - the highest price of the time period
- Low - the lowest price of the time period
- Close - This is the closing price of the time period
- Volume (Crypto) - the volume in the transacted Ccy. Ie. For BTC/USD, this is in BTC amount
- Volume Base Ccy - the volume in the base/converted ccy. Ie. For BTC/USD, this is in USD amount

Environmental data from kaggle:

https://www.kaggle.com/datasets/uciml/electric-power-consumption-data-set?resource=download

Dashboard

Datasets:

https://github.com/jcsargis00/NFT-Research/tree/main/Resources/data

ERD Diagram:

https://github.com/jcsargis00/NFT-Research/blob/main/images/erd.PNG

Interactive Elements:

- Flask to display 4 different cyptocurrencies
- Beautiful Soup application to scrape Coin Market Cap website data for 99 days