

Project Title: Bitcoin Prices. – Team A

Problem: Bitcoin Prices.

Problem Domain: Market.

Problem Expectation: Bitcoin price prediction project is to develop an accurate predictive model that can forecast the future price of Bitcoin, based on historical data and other relevant factors. The goal is to provide traders and investors with valuable insights that can help them make informed decisions about buying or selling Bitcoin. The main challenge is to develop a model that can effectively capture the high volatility and unpredictability of Bitcoin prices.

Problem Statement:

Bitcoin is a decentralized digital currency that has experienced significant price volatility since its inception in 2009. Despite its relatively short history, Bitcoin has become a popular investment asset for individuals and institutions alike. The aim of this project is to develop an AI model that can accurately predict Bitcoin prices over time. The model will leverage historical Bitcoin price data as well as external

factors that may influence Bitcoin prices, such as news sentiment scores, social media sentiment scores, and economic indicators.

Objectives:

1. Develop an accurate predictive model: Develop an accurate model that can forecast the future price of Bitcoin, with a high level of precision and reliability.
2. Incorporate external factors: Identify the external factors that may influence Bitcoin prices, such as news sentiment scores, social media sentiment scores, and economic indicators, into the predictive model.
3. Evaluate different algorithms: The effectiveness of different machine learning and deep learning algorithms in predicting Bitcoin prices, and to identify the best-performing model.
4. Deploy the Model: To deploy the predictive model in real-time, and to provide users with up-to-date Bitcoin price predictions that can inform their investment decisions.

5. Assess performance and improve the model: The model's performance over time, and to continuously refine and improve the model based on new data and feedback from users.

Dataset Source:

<https://www.kaggle.com/datasets/chakradharmattapalli/bitcoin-prices>

Language: Python.

Version: 3.10.

Library: Pandas, Numpy, Matplotlib, Seaborn.

System Requirement: Windows 10.

Design Thinking:

- Research and understand the needs of potential users of the Bitcoin price prediction model and design it with the users in mind.
- Clearly articulate the problem that the Bitcoin price prediction model aims to solve and define the scope of the problem and the data that will be used in the model.

- Brainstorm a range of potential solutions to the problem and evaluate and choose the most promising solutions.
- Develop a prototype of the Bitcoin price prediction model and test it with potential users and gather feedback.
- Implement the final version of the model and monitor its performance over time and improve it based on changing market conditions.