

Data Analytics

project



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Time Series Analysis with Cryptocurrency

Description :

This project focuses on analyzing cryptocurrency price trends using time series forecasting techniques. By leveraging data analytics, statistical modeling, and machine learning, the system aims to predict future price movements based on historical data. The project will include data collection, preprocessing, exploratory analysis, and forecasting using models such as ARIMA, LSTM, and Prophet.

A Graphical User Interface (GUI) will enable users to visualize real-time trends, historical patterns, and predictive insights. The system will incorporate interactive charts and dashboards to make financial analysis more accessible. This project is particularly valuable for traders, investors, and researchers looking to gain data-driven insights into cryptocurrency price behavior.



Feature Examples :

1. Cryptocurrency Data Collection

- Extracts real-time and historical data from API sources like CoinGecko, Binance, or Yahoo Finance.

2. Data Preprocessing & Exploration

- Cleans and processes data, handling missing values and visualizing trends using Pandas, Matplotlib, and Seaborn.

3. Time Series Forecasting Models

- Implements ARIMA, LSTM, and Facebook Prophet to predict future price movements.

4. Graphical User Interface (GUI)

- An interactive dashboard using Streamlit or Plotly to display charts, trends, and predictions.

5. Volatility & Sentiment Analysis

- Analyzes price fluctuations and integrates NLP-based sentiment analysis from crypto-related news and social media.

6. Real-World Applications

- Helps traders, investors, and analysts make informed decisions by providing trend insights, risk assessments, and price predictions.