

Programming for AI - final project journal

Multi-Crypto Price Analysis: Comparative Study and Unified Insights

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Task Stage	Task	Task Description	Time	Issues Encountered	Solution to Issues
project communication and setup	initial meeting	Discuss the goals of the project. Identify the project topic.	02/12/2024 2 hours and 09/12/2024 1 hours	It's important to define project goals.	Through the active communication of the group members. Project goals were defined, assigned responsibilities, and choose the needed tools and techniques.
data collection	get data from Binance API	Get historical data for SOL/USDT,collected over the last 5 years using the Binance API.	18/12/2024 4 hours	1. Avoid hard-coding API keys in code. 2. some API rate limiting errors were encountered.	1. Use .env files to store API keys. 2.followed Haiyan technique to avoid rate limit
data pre-processing	cleaning the data and preparing the dataset	Reuse haiyan preprocessing technique and update some functions.	21/12/2024 3 hours	Timestamp formatting errors. <code>['OBU']</code>	Convert timestamps to the correct datetime format. Normalize the data.
data analysis	exploratory data analysis	Performed data visualization and basic statistical analysis to understand cryptocurrency trends, volatility, etc.	23/12/2024 5 hours	Understanding fields and parsing number values to correct type.	Float conversion and remove null values
Model	LinearRegression	Used LinearRegression model to predict data as it help with time series as well predict based on previous trends	24/12/2024 6 hours	Understanding how model works and how data is required	Spent time and visualize trends
Model	Setup training for model with different dataset	Use data for 1y and 3 year and 5 years to train model	25/12/2024 2 hours	No issue	Split train test with data coming from binance

Prediction	Use Linear Regression model	Use data and train model and then predict data for 30 days duration	28/12/2024 2 hours	No issue	
GitHub	Code push	GitHub sync and push code to git	31/12/2024 2 hours	No issue	
Report	Sync on report	divide report work and other tasks related	01/01/2025 2 hours	No issue	
Report	Write report	Write detail report on Model Evaluation and Results Analysis, conclusion and future work sections	01/01/2025 - 04/01/2025 6 hours	Research and review some model works	
Presentation	Video record	Video record for work done in the project	04/01/2025	Work sync and looking for a free video recorder that help with screen record etc.	Explore available options such as capcut, loom and notion