

## Programming for AI - final project journal

### Multi-Crypto Price Analysis: Comparative Study and Unified Insights

Group M: Muhammad Anis Ur Rahman (23284803)

Task Stage	Task	Task Description	Time	Issues Encountered	Solution to Issues
Research	initial meeting	Discuss the goals of the project. Identify the project topic.	02/12/2024 2 hours	Project definition Communication Collaboration	Discus some ideas related to the project and agree on how to communicatee and collaborate on the project.
Research	Idea search	Look for an idea that match the requirements of project, explore topics such as weather, health and financial dataset and discuss with team	03/12/2024 to 08/12/2024 Continuus search 4-6 hours		
Research	Idea search	Finalize idea and dataset.	09/12/2024 2 hours	Valid and optimized datasets,	As we decided to work on a crypto related project, best option was to use exchange data and choose binance as it matches requirements such as 3-4 different and over 1000s rows per dataset.
Development	Git setup	Repository, Git flow setup and granting access etc.	11/12/2024 2 hours		
Development	Readme update	Readme and other related project setup such as contributing guide and PR/Commit etc.	15/12/2024 2hours		
Development	Data Analysis	Work with ETH data, fetch data and setup in local db., review and analyze trends etc.	20/12/2024 2 hours		
Development	Code Review	Review PRs of other team members	21/12/2024 To 31/12/2024 Continuous review 3-5 hours		
Development	Web Application	Setup a unified dashboard to merge all	26/12/2024 8hours	Integration	As every team member used a different approach, and every

	setup	the analysis and predictions from team members			code block was in jupyter notebook, integration was challenging and i have redefined most of the work in a shared directory to reuse that. Additionally, I chose a web framework shiny to develop dashboard.
Development	DB setup	Setup PostgreSQL with python and define tables	27/12/2024 4 Hours		
Development	Web Application development	Added features such as time range selector	28/12/2024 3 Hours	Data fetching from DB	Different data were required on components for visualization and integration, moved mostly function to utils directory to reuse them, such as fetching data, saving data and preparing data for ML algorithms.
Development	Web Application development	Implement currency selector, date range selector and fetch data on initial load	29/12/2024 3 Hours		
Development	Web Application development	Implement prediction related visualization and information to UI	01/01/2025 4 hours	Multiple model integration	As different models were used by team members, i must train and evaluate all before implementing. Did some research and use RandomForestRegressor technique as it predicts value gradually instead of linear prediction.
General	Update readme	Update guide for dB setup, shiny setup and Api keys etc.	05/01/2025 2 hours		
Report	Writing Report	Work on different sections of report divided by team members.	27/12/2024 To 04/12/2024 Continuous writing 6-8 Hours		
Report	IEEE Format	Change word document style report to IEEE and add references.	05/01/2025 4 hours	latex	Refresh some concepts related to latex
Presentation	Video recording	Record video to describe work done in project	05/01/2025 1 hour		
	Video merging	Combine all team	05/01/2025		

		member videos to 1	1 hour		
Submission	Final check and submission	Double check everything is correct, rerun project using guide to make sure it works smoothly and prepare submission.	05/01/2025 3 hours		