

Team Name: Leo

Team members:

Adam Rodi

Bishow Adhikari

Caleb Viverito

Max Del Rio

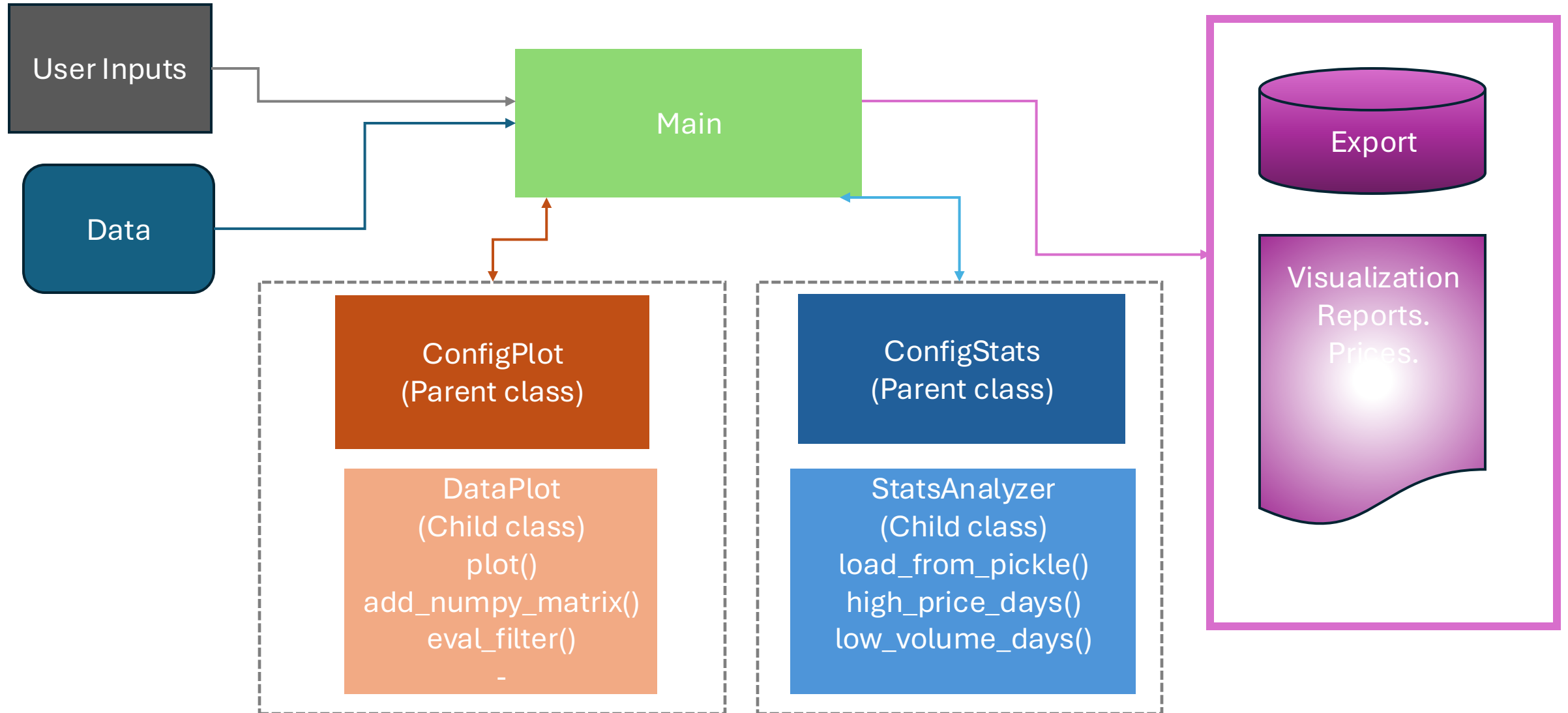
GitHub URL

- https://github.com/adamrodi/CS340_S25_Leo

Goal of the Project

- **Analyze Patterns:** Investigate historical Bitcoin data to identify recurring seasonal and calendar-driven patterns, weekly trends (e.g., weekend price dips), or holiday-related fluctuations.
- **Provide Insights:** Uncover the underlying causes of observed seasonal effects (e.g., reduced trading volume on weekends, tax-related sell-offs in April) and propose strategies for stakeholders to leverage or mitigate these patterns.
- **Visualize Data:** Create intuitive to highlight cyclical trends and calendar effects for actionable decision-making.

Module Communication Flow Diagram



User Manual

Running the main.py file will cause the program to run the user interface in the console. Follow the instructions in the console to visualize and analyze the dataset however you like.

You can get plots for many different things like price over various time periods, average trading volume, histograms of the closing or opening price, etc.

Input Data Format

Csv File

Delimiter: comma

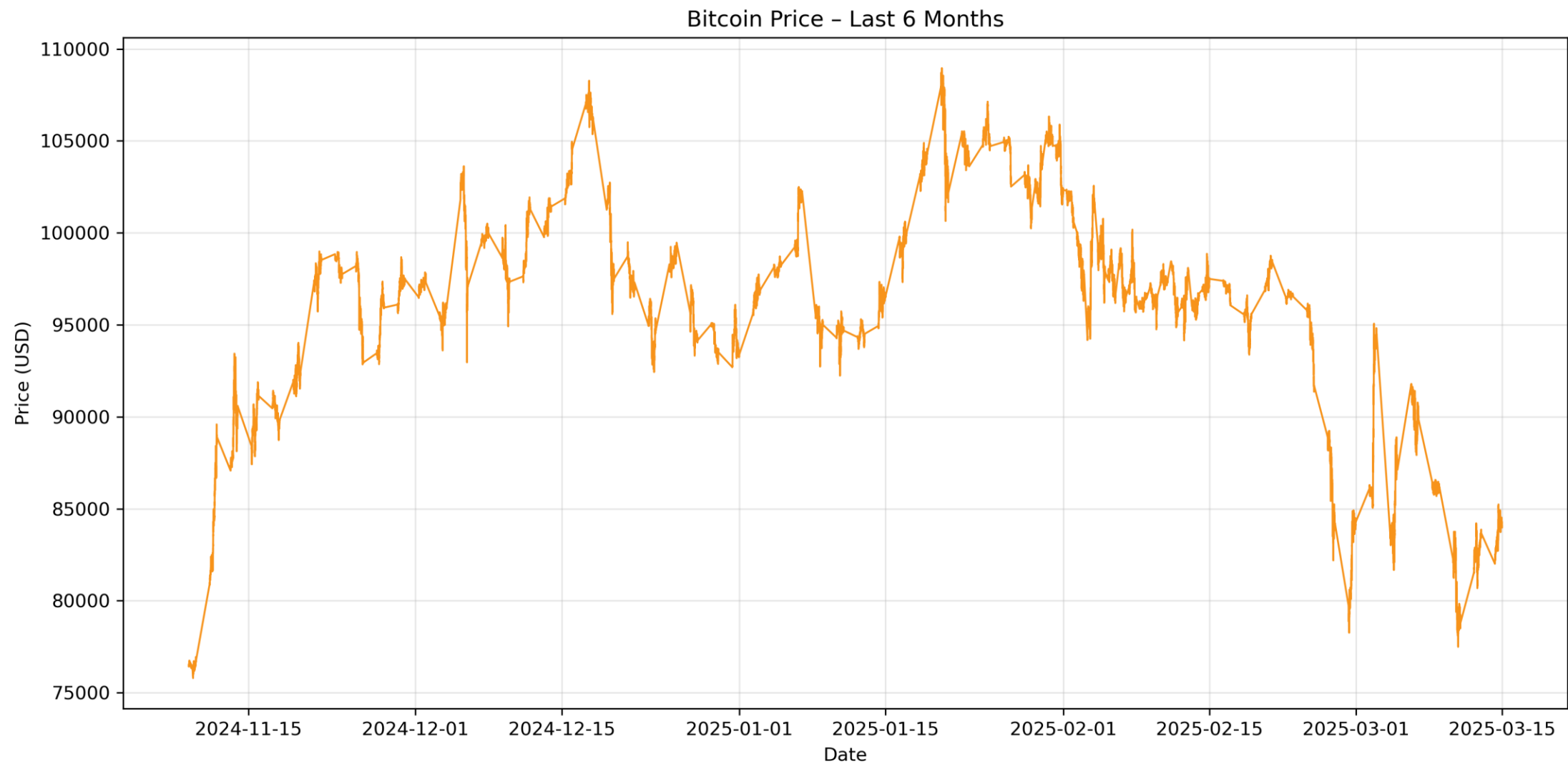
Example:

Timestamp	Open	High	Low	Close	Volume	datetime
1325412060		4.58	4.58	4.58	4.58	0 2012-01-01 10:01:00+00:00
1325412120		4.58	4.58	4.58	4.58	0 2012-01-01 10:02:00+00:00
1325412180		4.58	4.58	4.58	4.58	0 2012-01-01 10:03:00+00:00
1325412240		4.58	4.58	4.58	4.58	0 2012-01-01 10:04:00+00:00
1325412300		4.58	4.58	4.58	4.58	0 2012-01-01 10:05:00+00:00
1325412360		4.58	4.58	4.58	4.58	0 2012-01-01 10:06:00+00:00
1325412420		4.58	4.58	4.58	4.58	0 2012-01-01 10:07:00+00:00
1325412480		4.58	4.58	4.58	4.58	0 2012-01-01 10:08:00+00:00

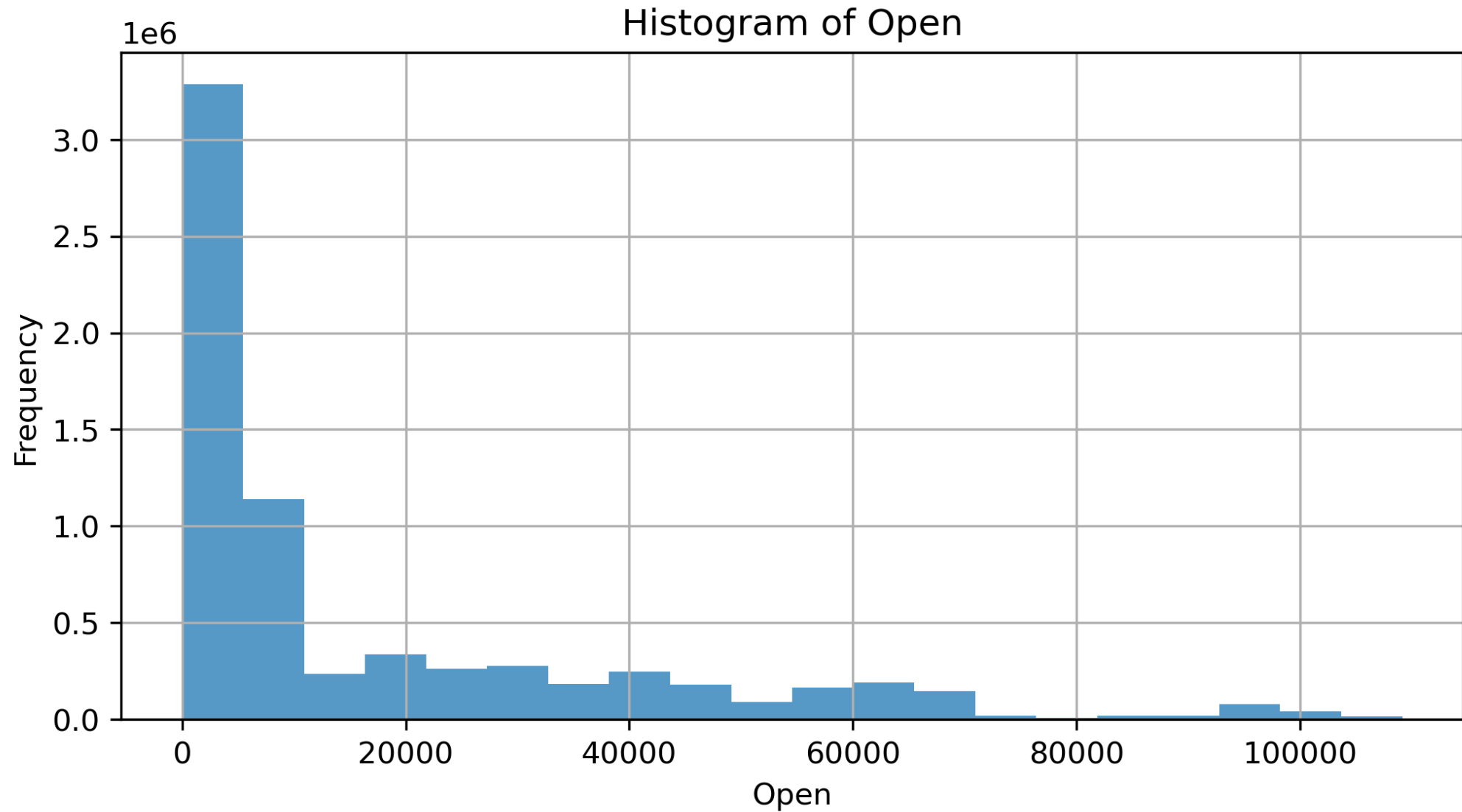
Output Data Format

- Png files (including line, violin, hist plots and charts)
- pkl files
- Csv files
- Examples of some of our outputs are on the next few pages.

Example png file output



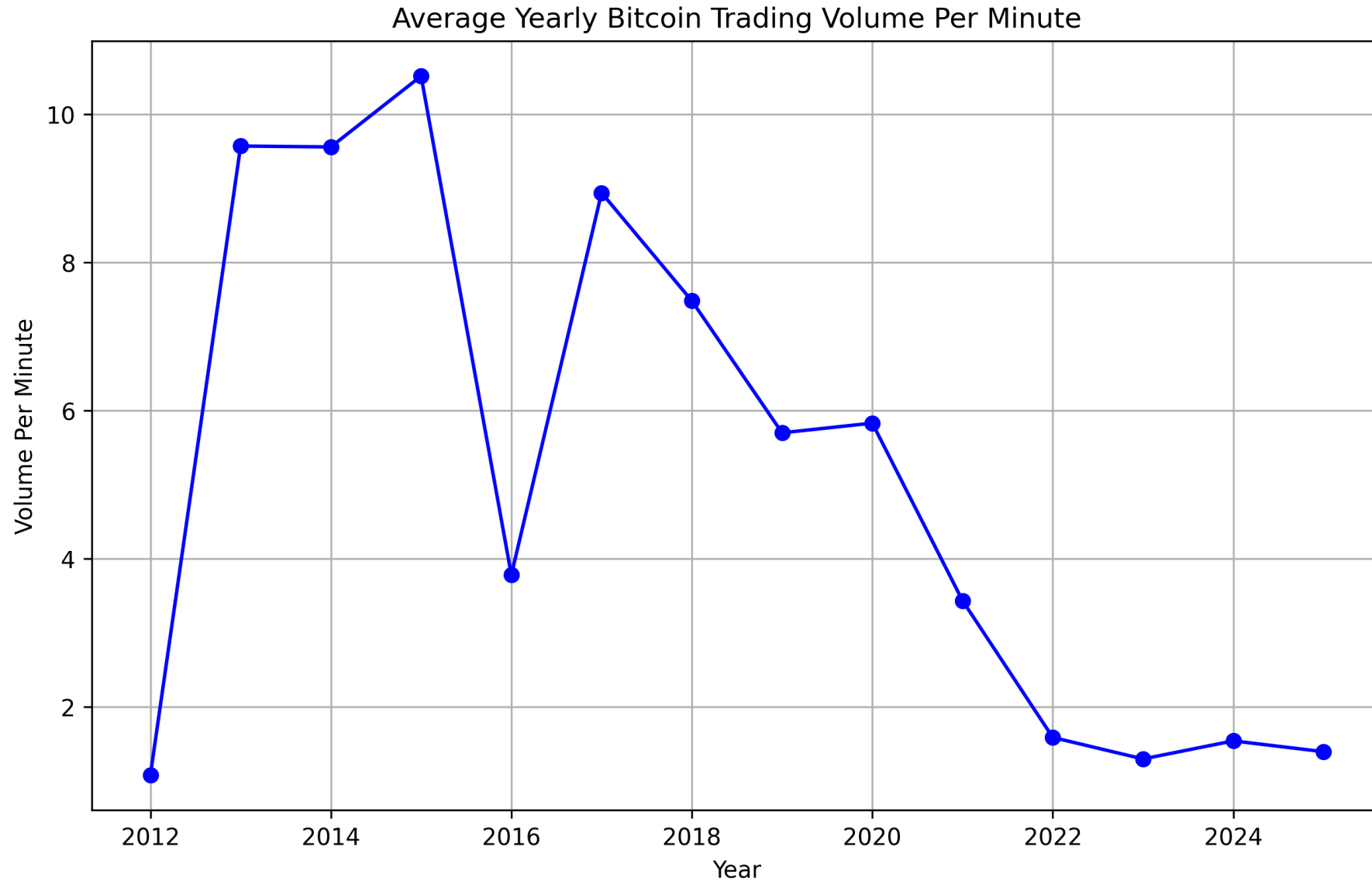
Example png file output



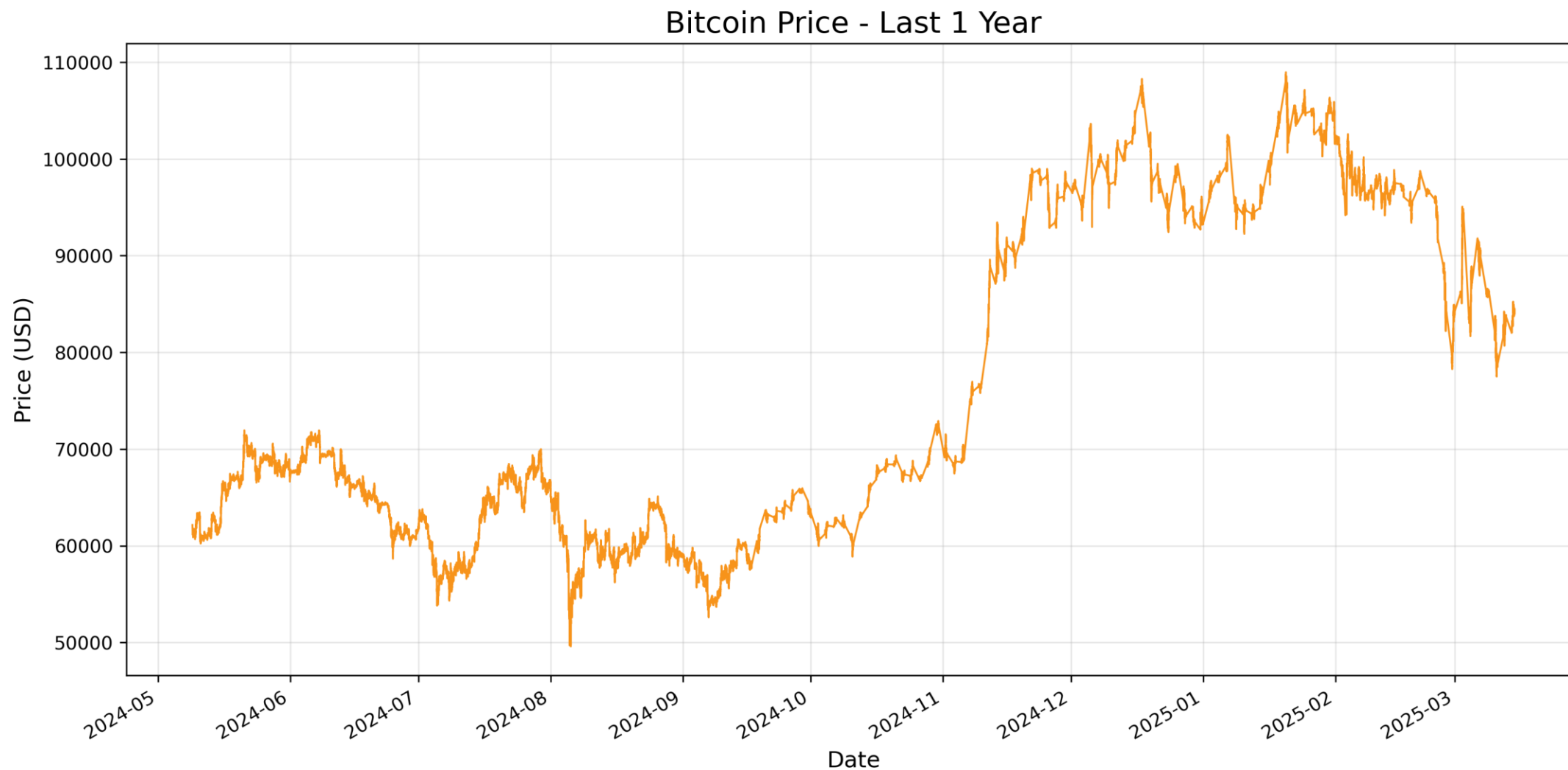
Example png file output



Example png output file



Example png file output



Task Progress Report

Date	Task Name	Status	Person
4/4/25	Brainstorm project ideas	Complete	Everyone
4/5/25	Create github repo	Complete	Adam Rodi
4/6/25	Decide on project idea	Complete	Everyone
4/6/25	Design module outlines	Complete	Adam Rodi
4/6/25	Define input data format	Complete	Adam Rodi
4/6/25	Design module communication diagram	Complete	Bishow
4/6/25	Complete PA1 powerpoint report	Complete	Adam Rodi
4/14/25	Added Avg Volume Functions	Complete	Caleb Viverito
4/15/25	ed exporting Avg Volume Functions to pickle	Complete	Caleb Viverito
4/18/25	Add exception handling to functions	Complete	Adam Rodi
4/27/25	Implement price visualization functions	Complete	Adam Rodi
4/27/25	Added basic console ui	Complete	Caleb Viverito
5/8/25	Complete Project	Complete	Adam Rodi
5/8/25	Complete powerpoint report	Complete	Adam Rodi

Team Communication and Participation

- Our primary mode of communication is through our group discord server.