Interactive Dashboard-Outline

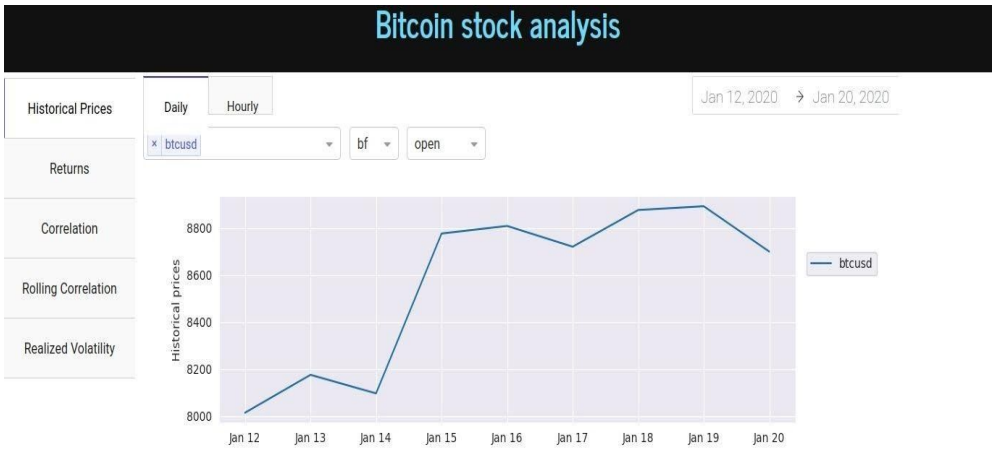
Author : Naveen Gabriel

I have made a dashboard using dash in python with seaborn and pandas. My dashboard includes following main functionality :

- Change of asset using drop down.
- User specific start date and end date.
- Daily and hourly frequency is used to visualize asset.

Above functionality is flexible and user can control above functionality to see changing graphs

Outline of the dashboard:



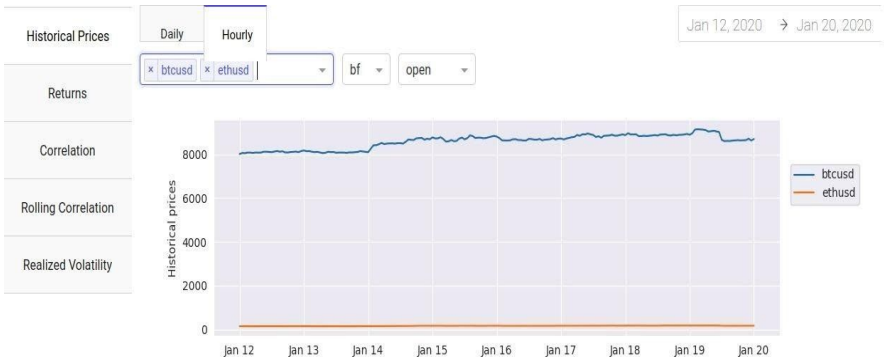
There are basically 5 tabs. I have implemented dash so that a user can visualize **historical prices**, **returns** ,**correlation**, **rolling correlation** and **realized volatility** using different combinations of drop downs and date.

Below section will give an overview of all tabs

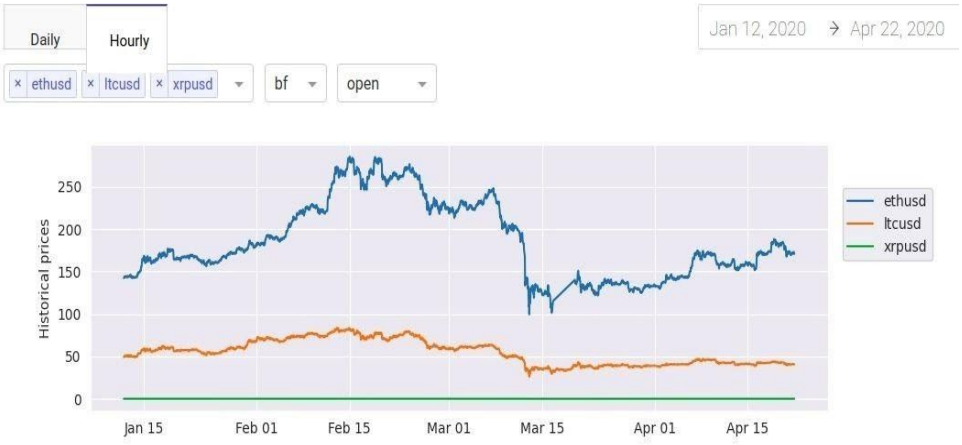
1. Historical Prices

A user can select different assets and can compare historical prices both daily and hourly. Upon changing the date, the graph gets automatically updated with a selected drop down.

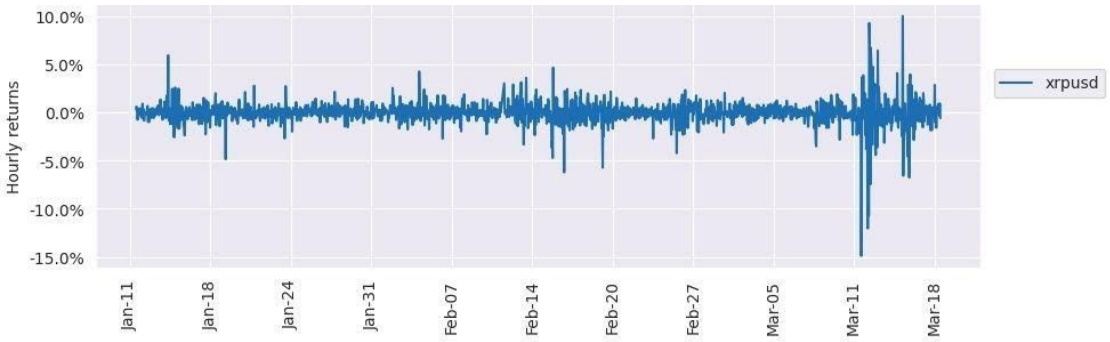
Daily Prices:



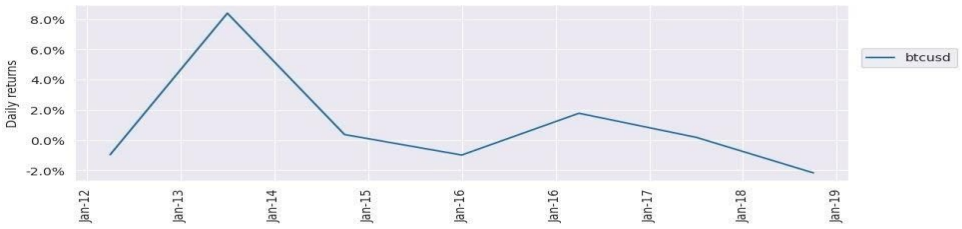
Hourly prices:

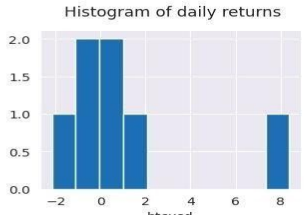


2. Returns

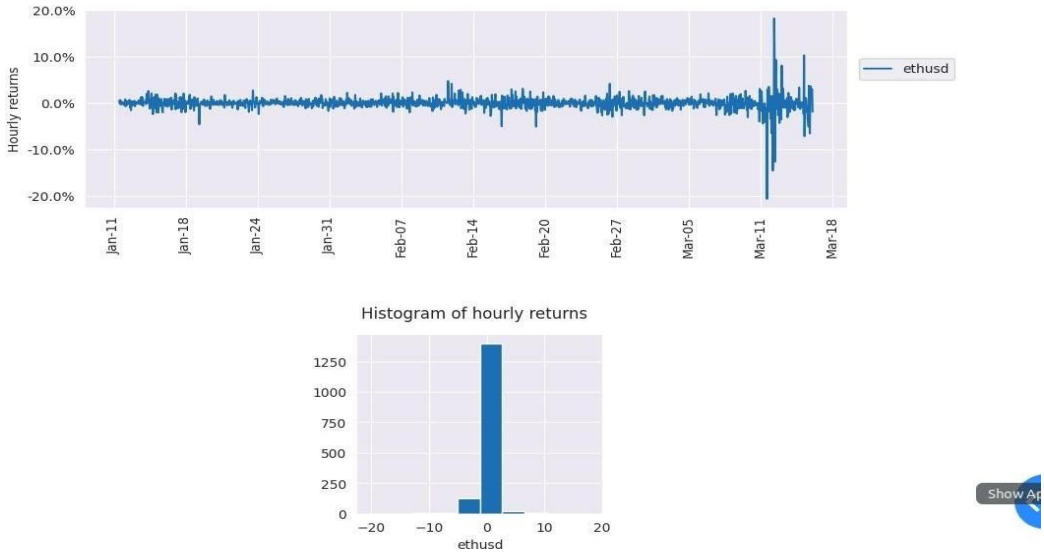


Daily returns shows lineplot between different assets. Asset, exchange and date range can be individually controlled. It also shows a histogram of return values for the given duration. Number of histogram plot dynamically generates as the number of comparison between asset increases.





Hourly returns are represented by line plot as well. Here I have not made a comparison between different assets, though it can be made. Here also,histogram plot shows the frequency of returns for the given duration

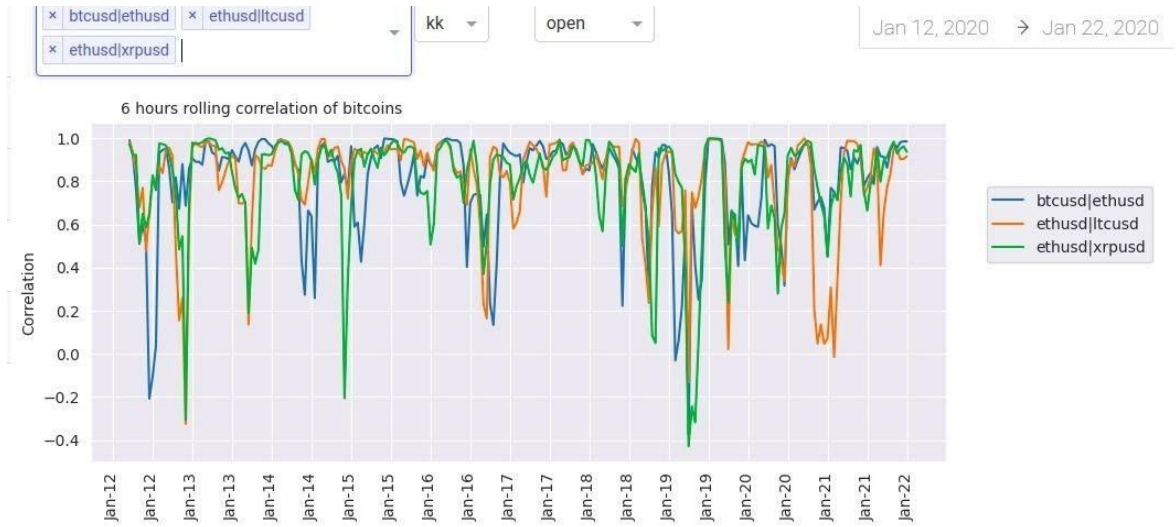


3. Correlation between assets

In this plot I have tried to show correlation between different assets for high, open,low and close price. Exchange and date range can be manipulated.

4. Rolling Correlation

Here assets, market and date can be chose with different combination to represent rolling correlation for open,high,close and low price. The rolling window was chosen as 6 hours.



5. Realized volatility

Realized 6 days volatility is computed and represented as line plot. Realized volatility can be compared between different assets for different markets. Date range can be picked by user.