

OpenBlock Labs Data Scientist Take-Home Assignment

Contacts details

ARMAND MORIN

email : armand_morin@berkeley.edu

telegram: <https://t.me/Zigouli>

linkedin: <https://www.linkedin.com/in/armand-morin/>

Considerations

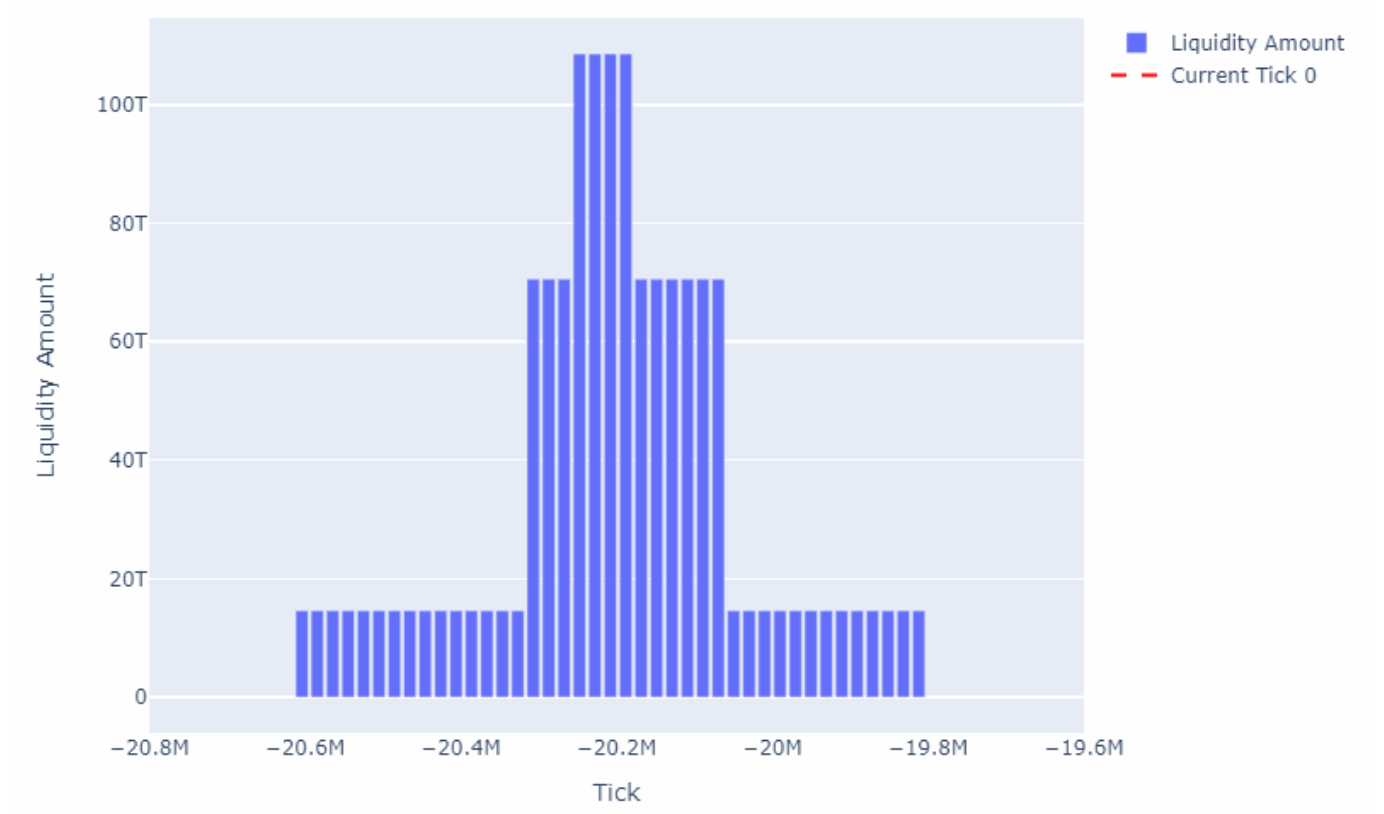
I've arbitrarily chosen a particular pool, but it's possible to change this variable and redo all the calculations using data from another pool. The code is modular and allows this type of change perfectly.

Token 0 address: `0x049d36570d4e46f48e99674bd3fcc84644ddd6b96f7c741b1562b82f9e004dc7` Token 1
address: `0x053c91253bc9682c04929ca02ed00b3e423f6710d2ee7e0d5ebb06f3ecf368a8` Mainnet Core
contract address: `0x00000005dd3d2f4429af886cd1a3b08289dbcea99a294197e9eb43b0e0325b4b`

Liquidity of the pool ETH - USDC

This gif is showing the liquidity shape of the pool moving over time as traders are minting and burning positions

Liquidity Shape at time 2023-09-12 19:50:42



Pool Depth

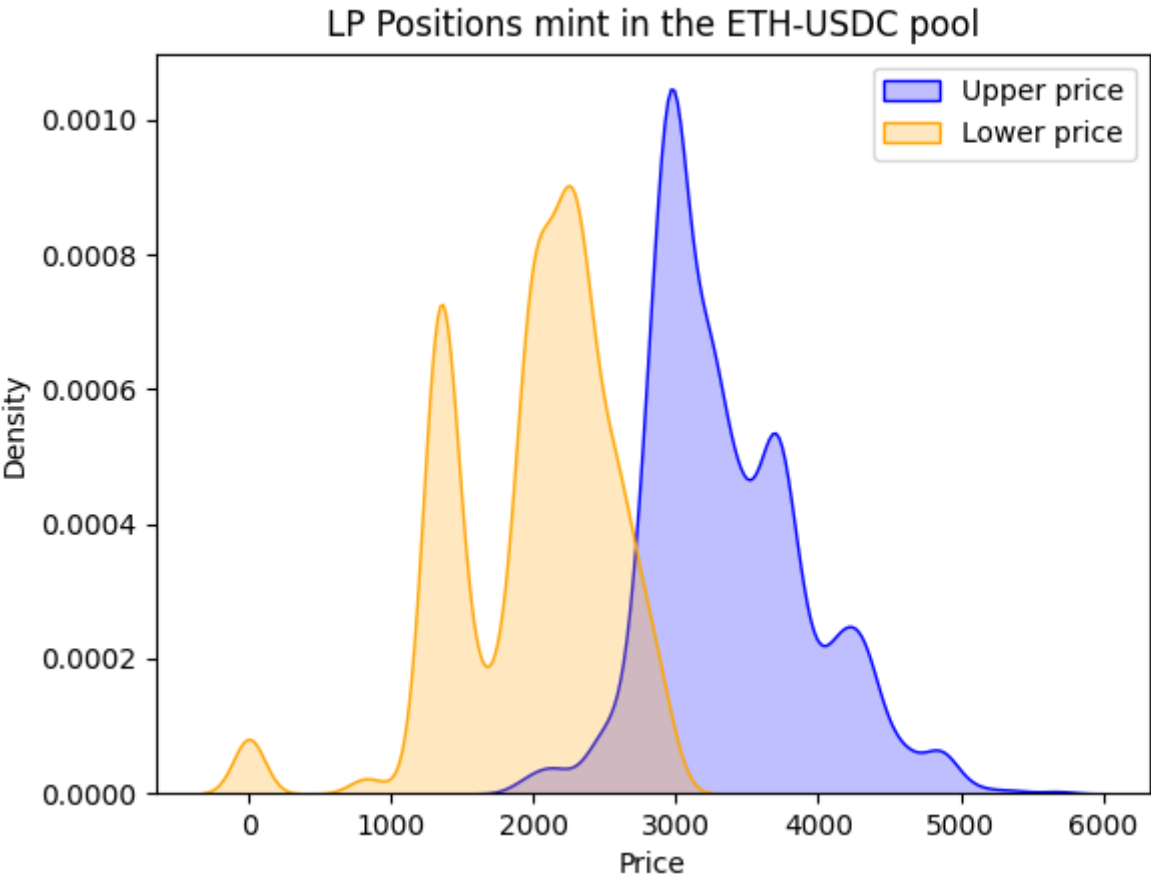
We have the following results for the depth of the pool at the end of the data for the **current price of \$ 3629 ETH/USD**:

Depth %	Lower Price	Upper Price	Lower Tick	Upper Tick	Market Depth (\$)
20	3024	4354	-19616745	-19252101	\$ 5.401M
10	3299	3991	-19529733	-19339113	\$ 2.772M
5	3456	3810	-19483213	-19385633	\$ 2.566M

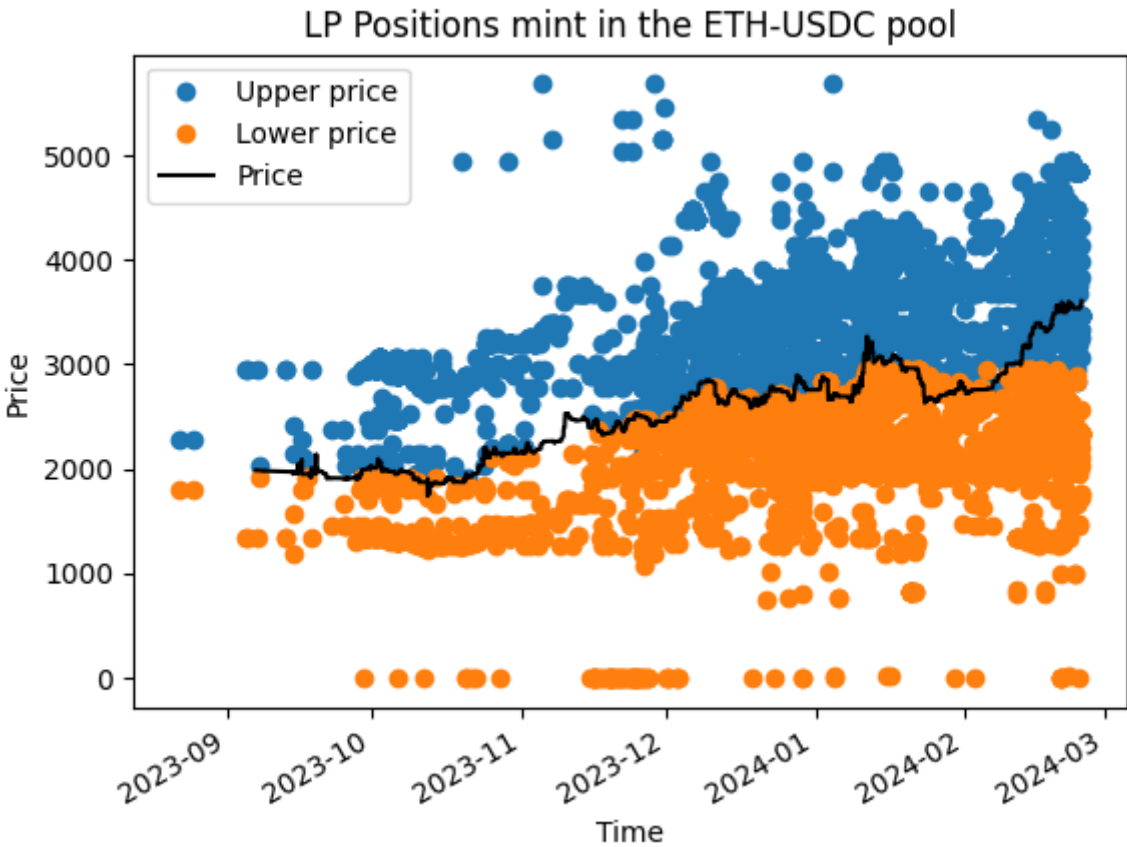
You can see that the value of my walking depth decreases with the percentage of depth you select. This is perfectly coherent. Here at this moment I had several other ideas of how to have better ways to visualize this type of variables and I would be happy to detail it orally.

Basics Stats

Density of Upper and Lower bounds of positions minted

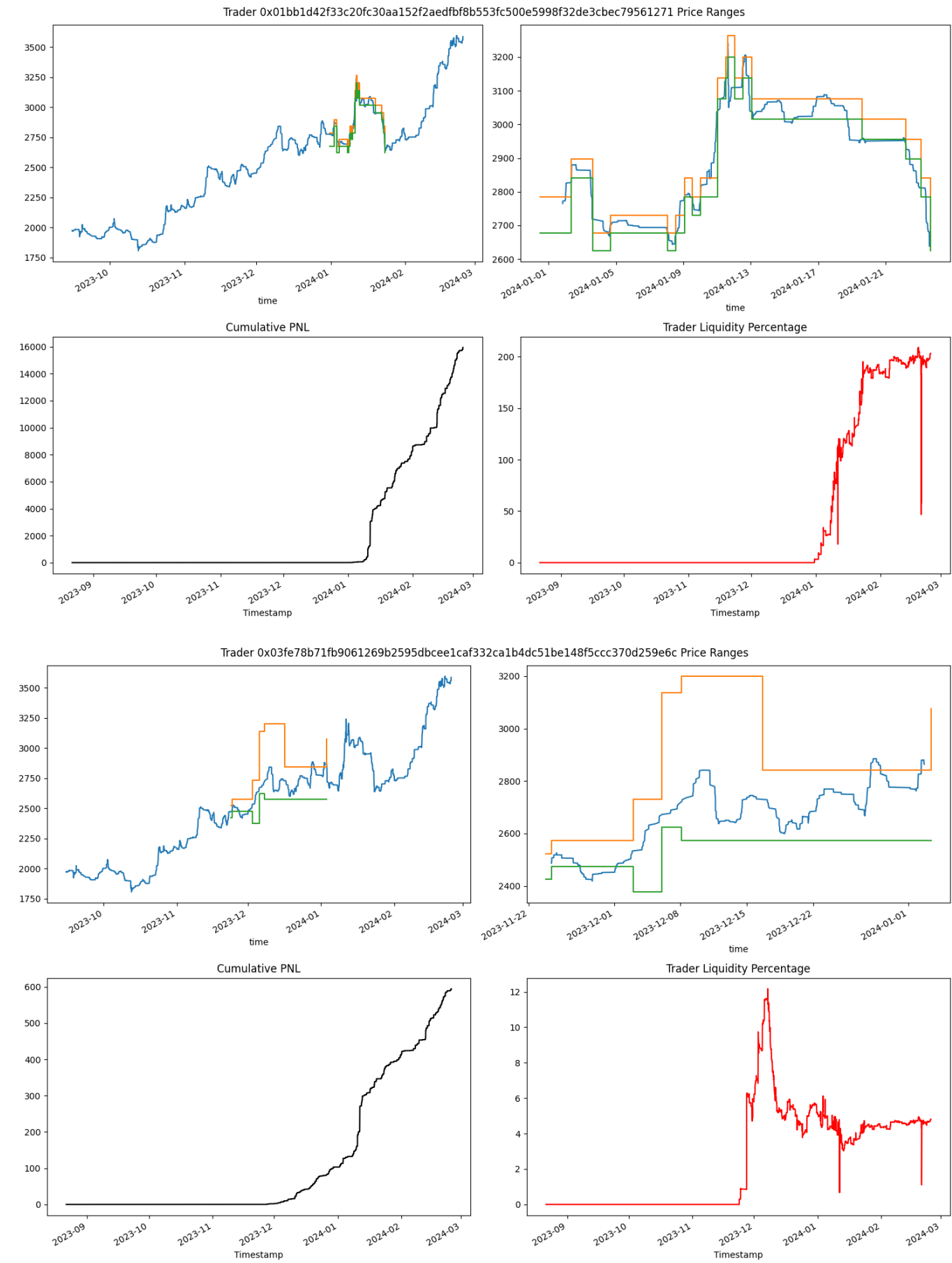


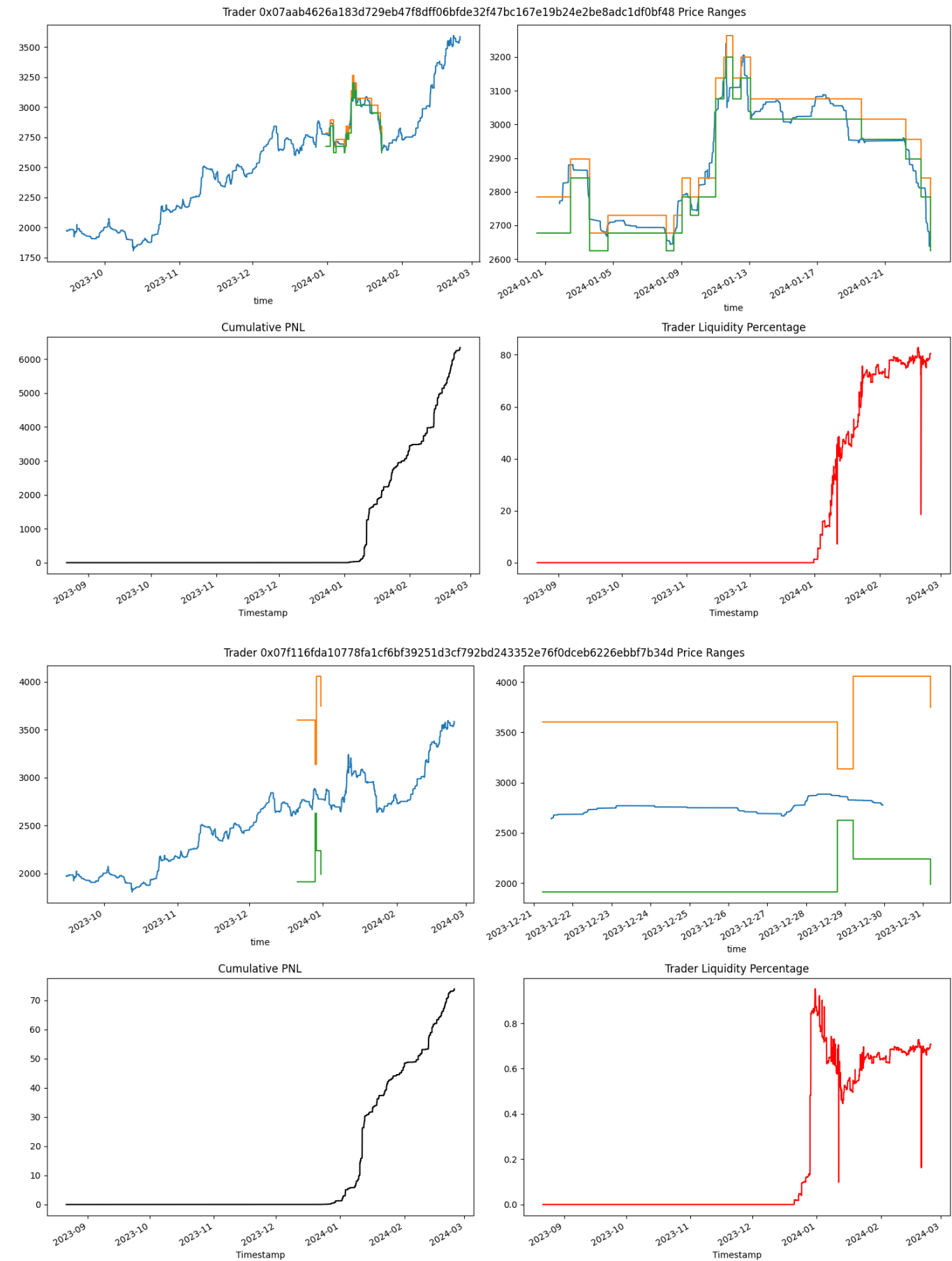
Scatter history of Upper and Lower bounds of positions minted

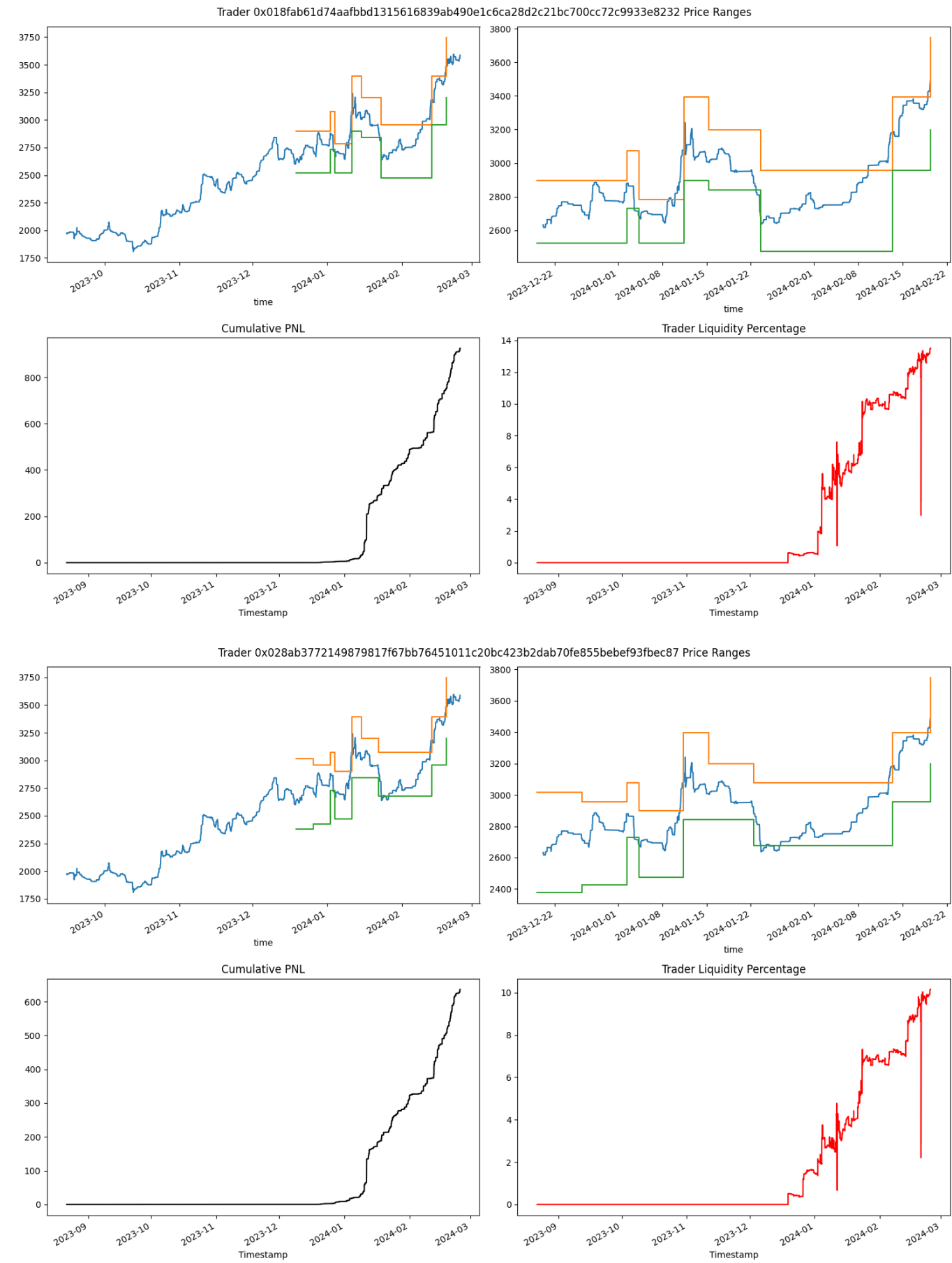


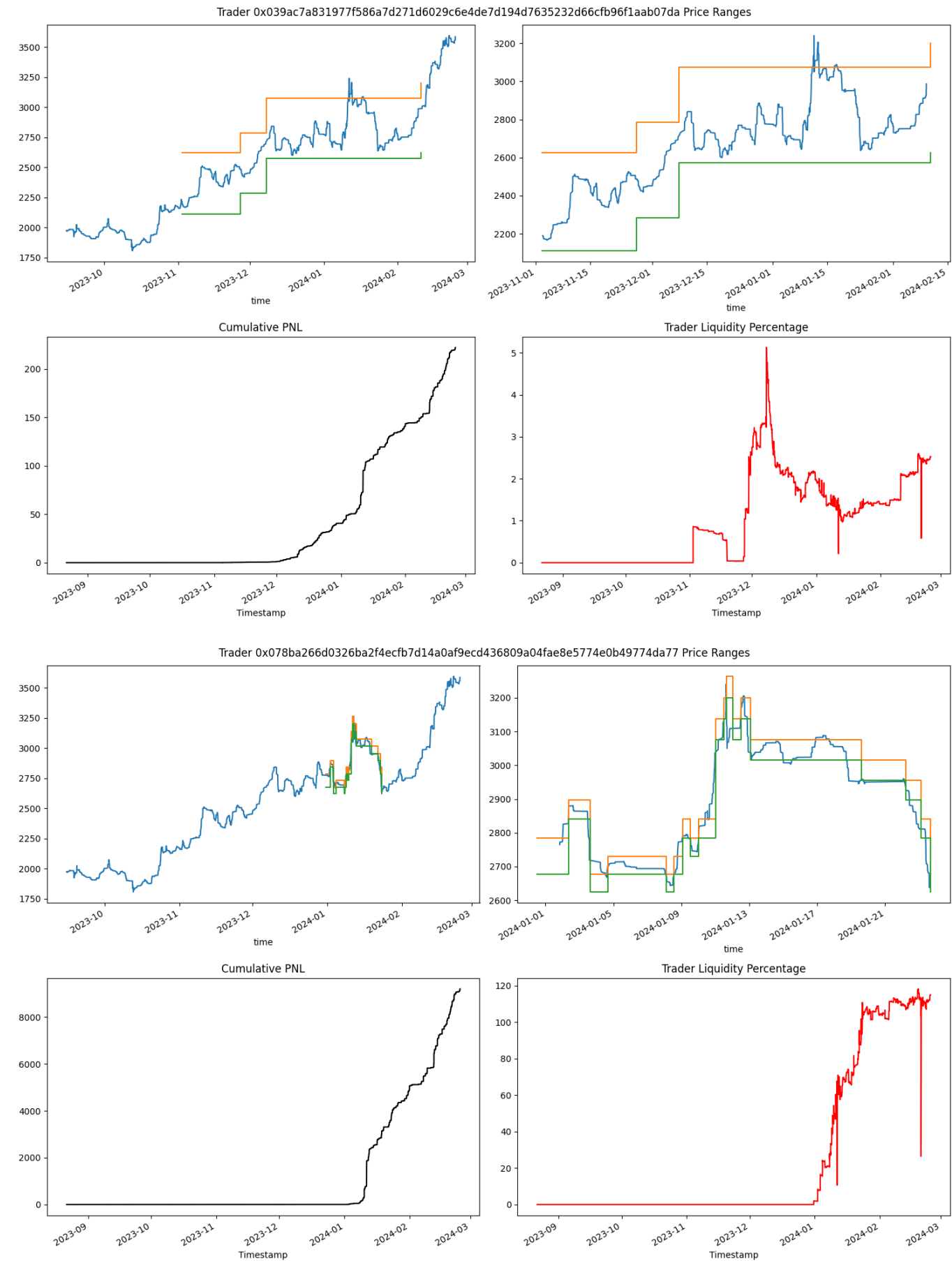
Top Traders positions

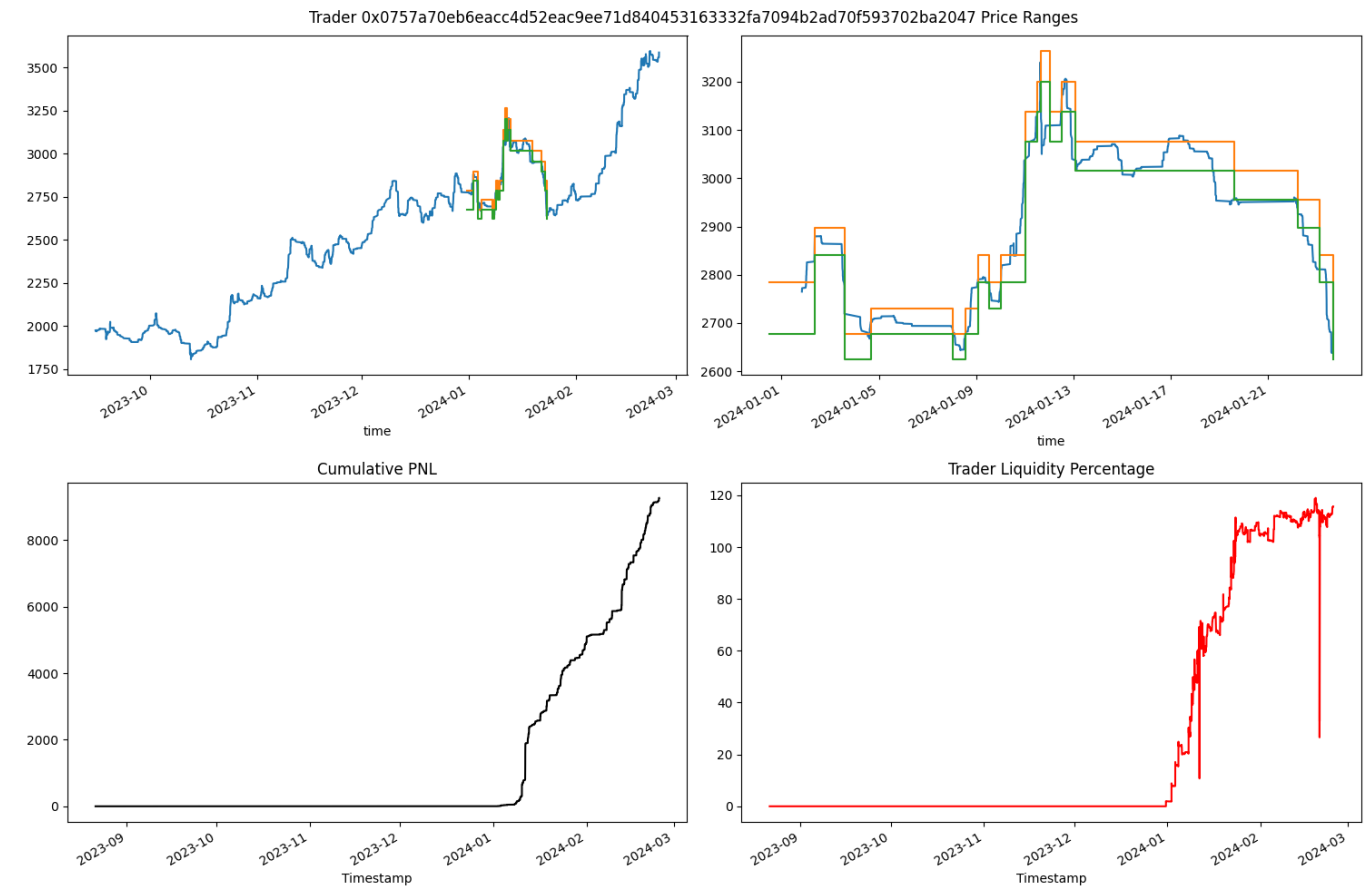
Graph of the LP positions history of a trader and a zoom on the period she was trading. Cumulative PNL for LP positions (no swap considered here). Liquidity percentage in the pool for each traders to know how much each trader is accounting for the total liquidity of the pool.











Conclusion

Due to the confidential nature of this type of work, I have chosen not to disclose all results that i worked on during the past few months within this document. I welcome the opportunity for a discussion to comprehensively review the findings in this notebook and to elaborate on my research methodology. I have developped powerfull tools to automate many things on my side and would be gratefull to discuss it. In such a conversation, I can also outline potential future directions and improvements that could be realized with additional time allocated to this project.