

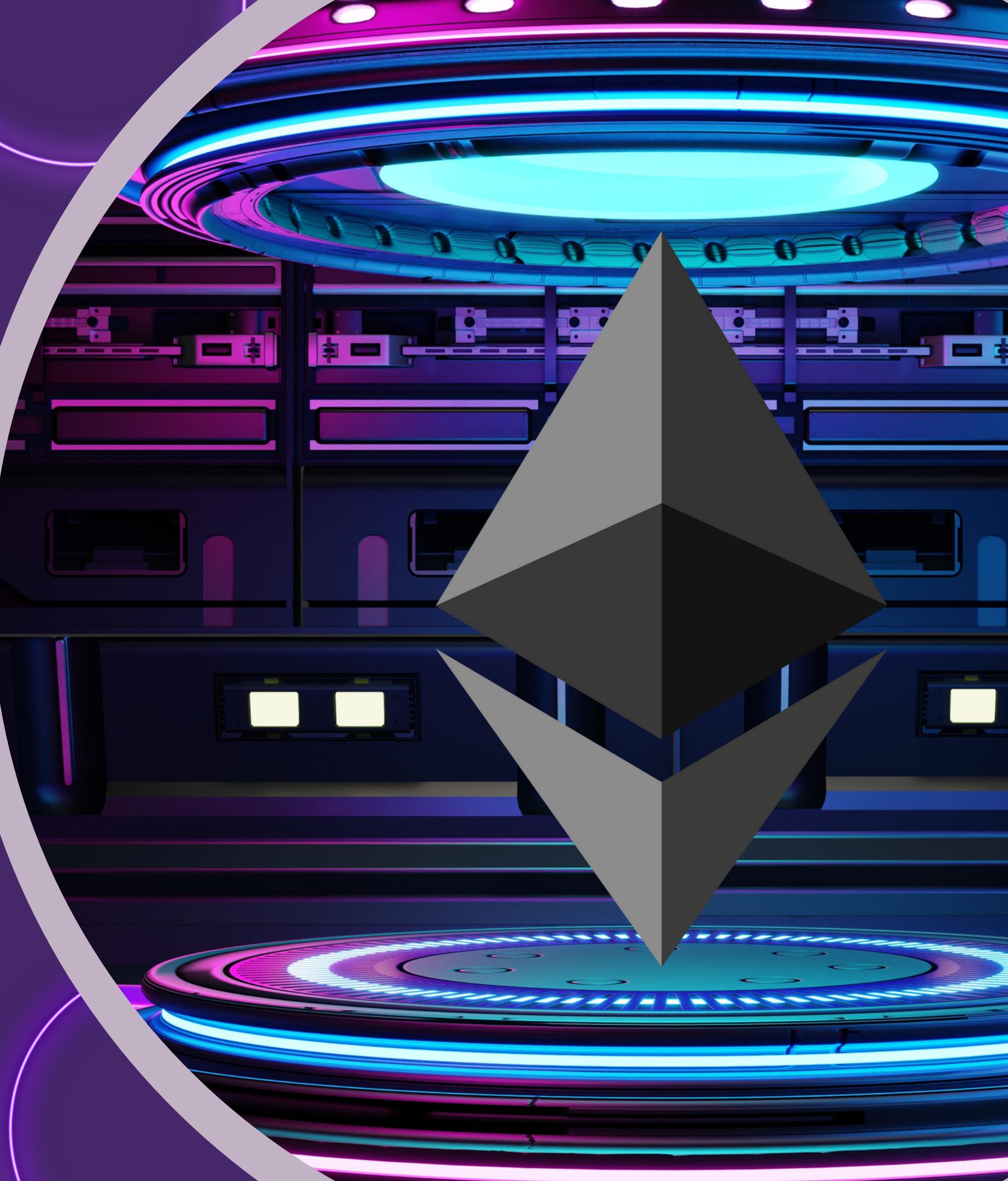
ETHEREUM ANOMALY DETECTION AND ANALYSIS

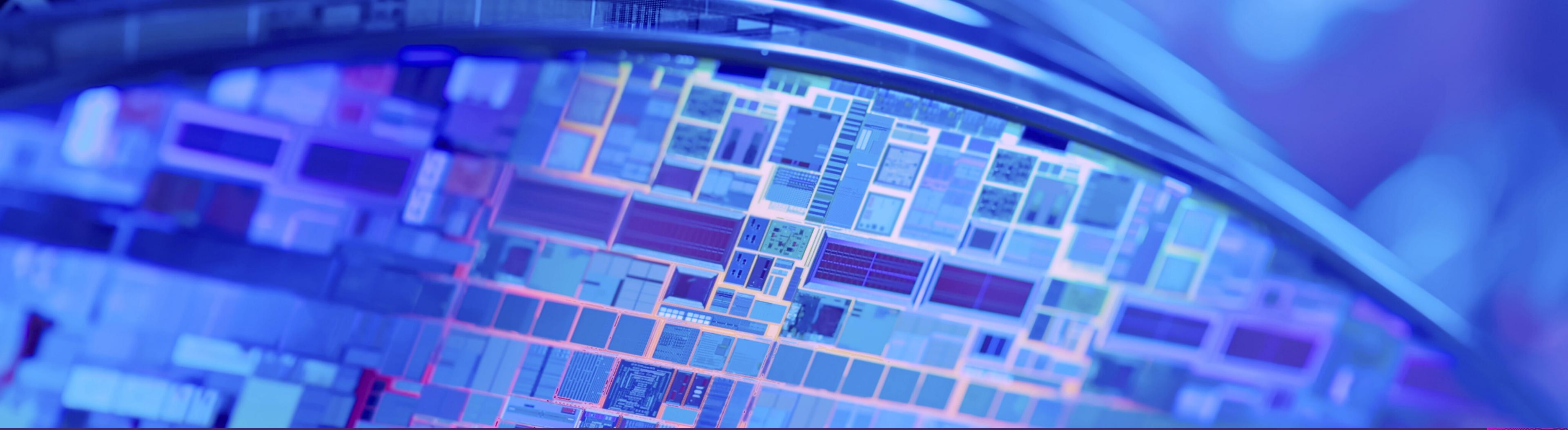
Presented by Mark Dunlea



Welcome To EtherInsights

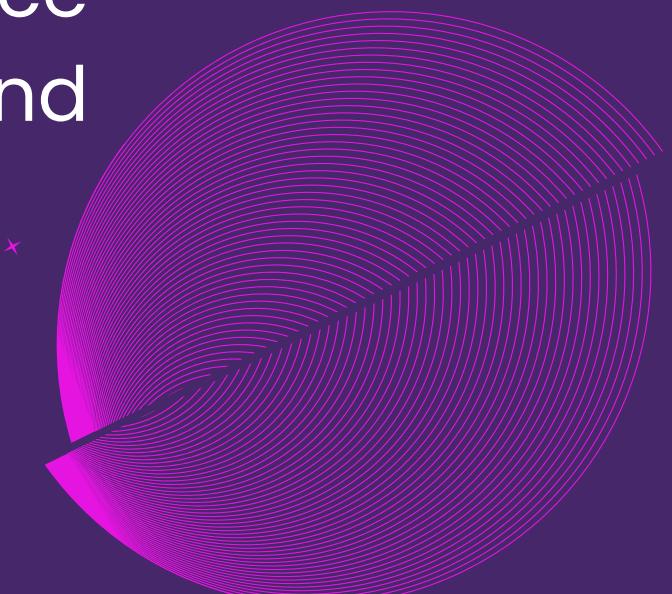
Your guide to Ethereum
trading wisdom





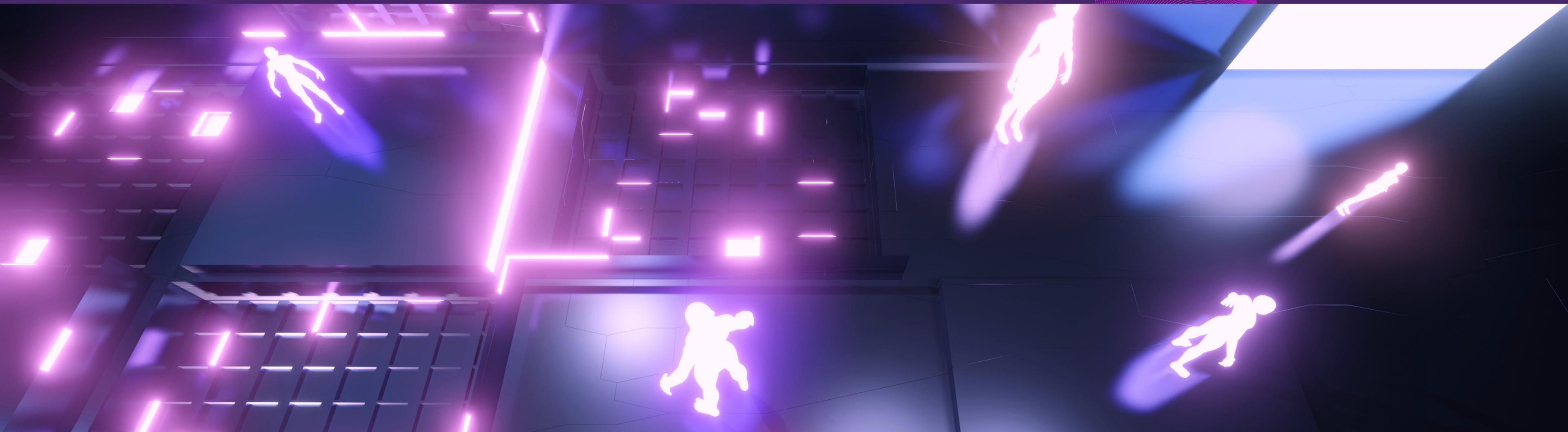
Objective

To develop a clustering model to identify Ethereum addresses that exhibits increased transaction volume prior to significant price changes. The hope is to be able to create actionable insights and patterns to recognize when the market is particularly volatile.



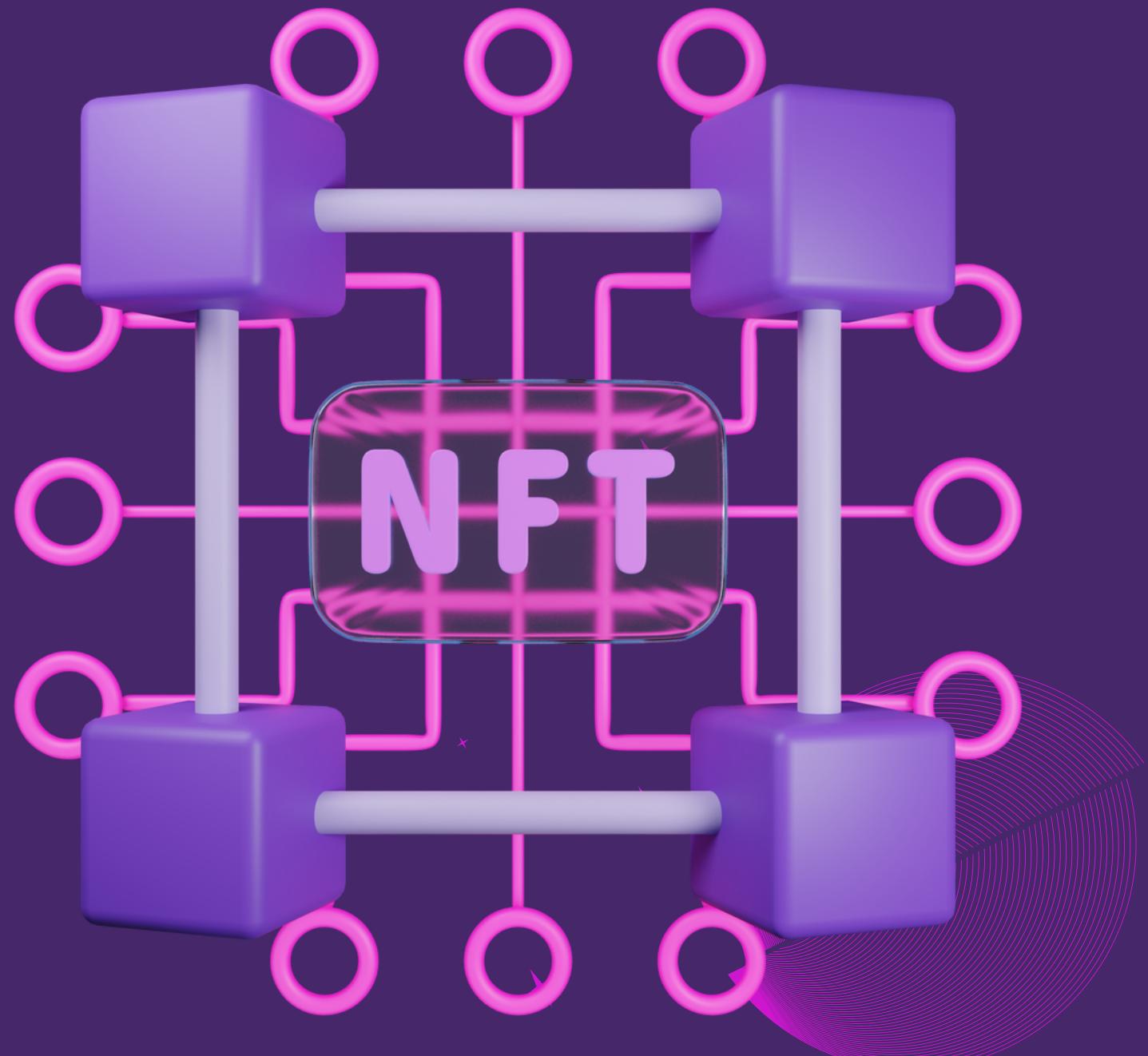
What is Ethereum?

Ethereum is a cryptocurrency similar to bitcoin although the base equation is different.



The Data

- Arkham Intelligence
- Etherscan.io API
- Yahoo Finance!
- ~270,000 Transactions



Smart Contracts

Out of that 270,000 transactions. Only 41 transactions used smart contracts, and while none of these transactions carried any value. They carried information



Feature Engineering

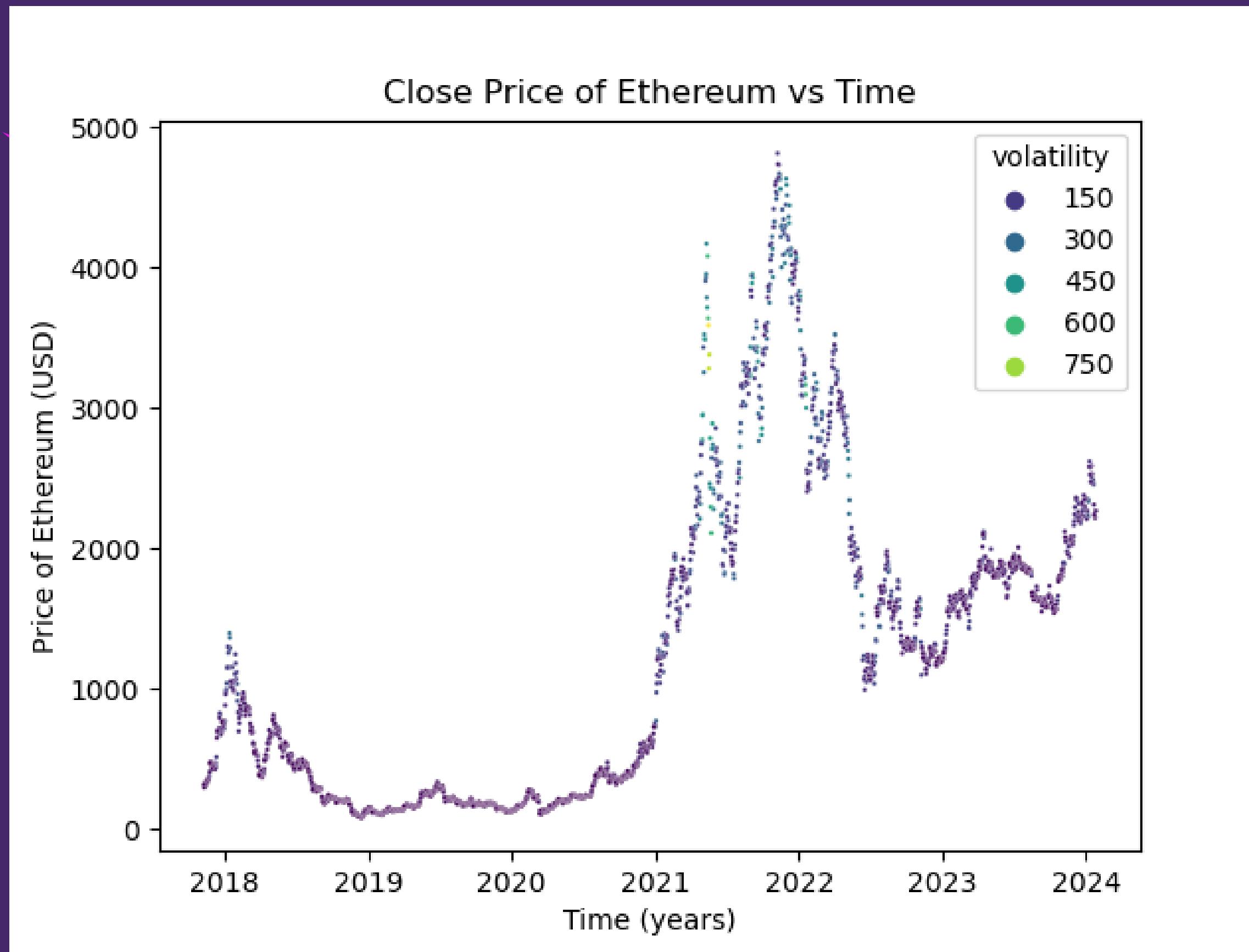
- Lagging Closing Price
- Volatility
- perc75_Neg
- get_out_metric
- Mapping to Transactions
- Mapping the Reverse onto Ethereum daily closing value



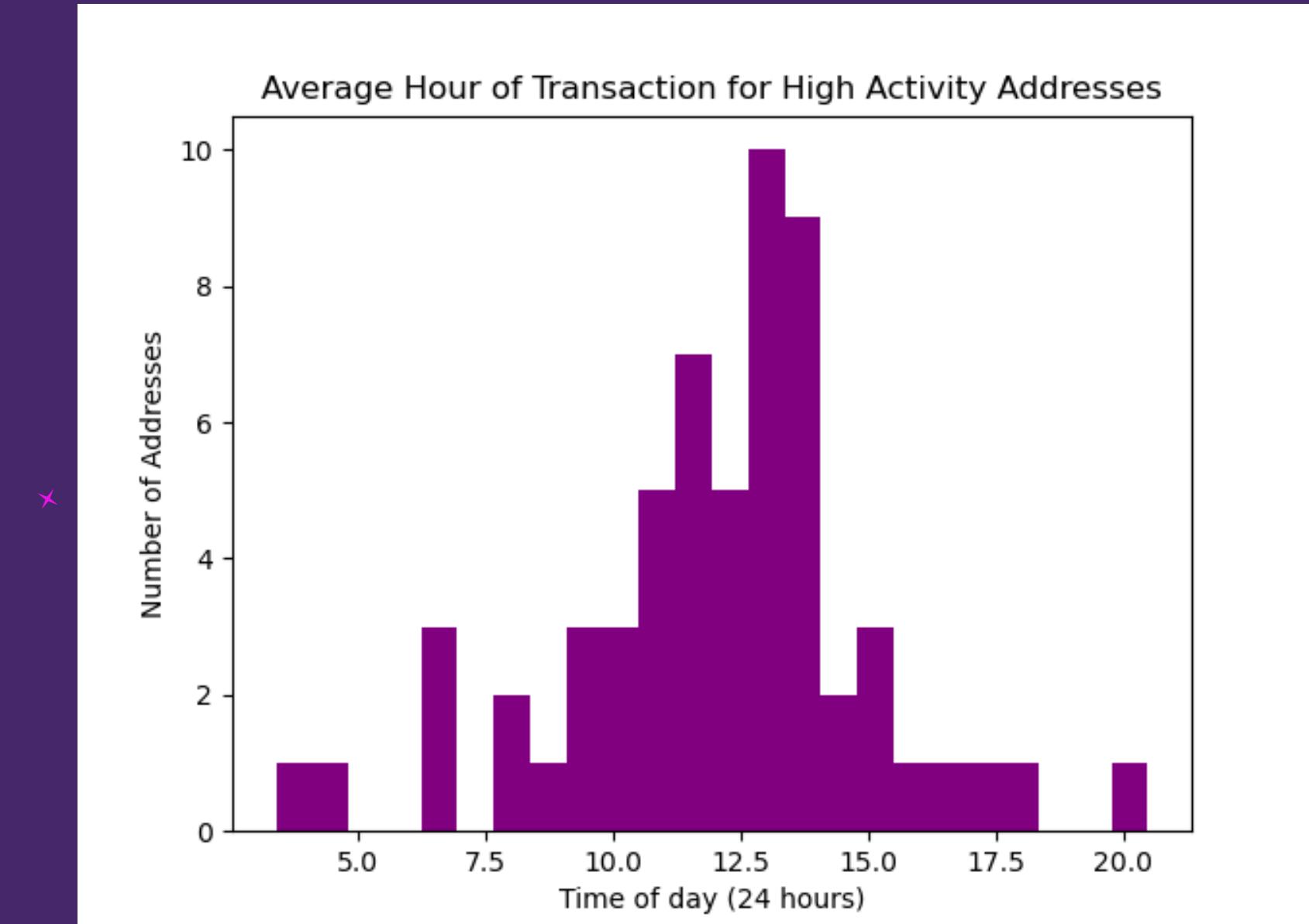
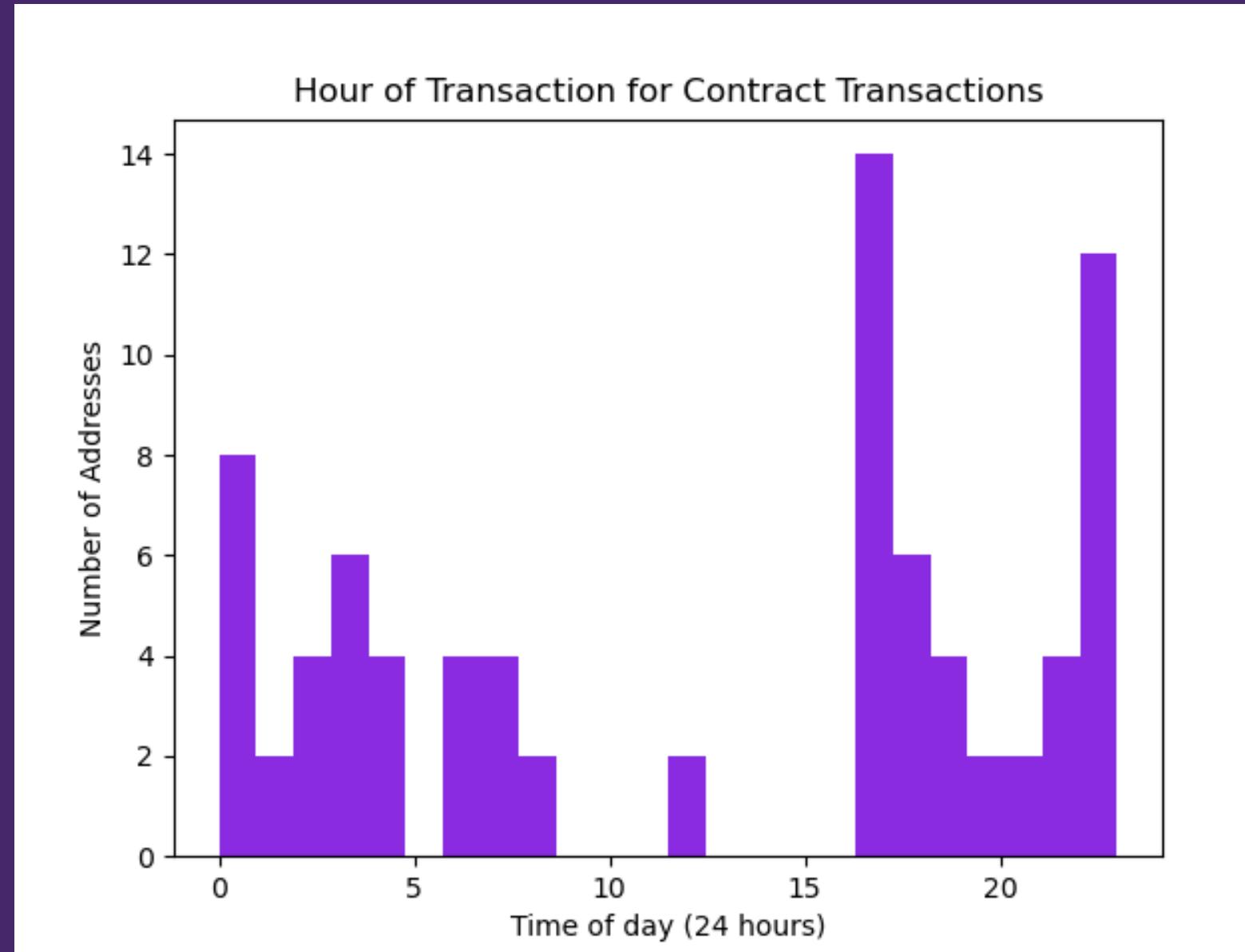
EDA



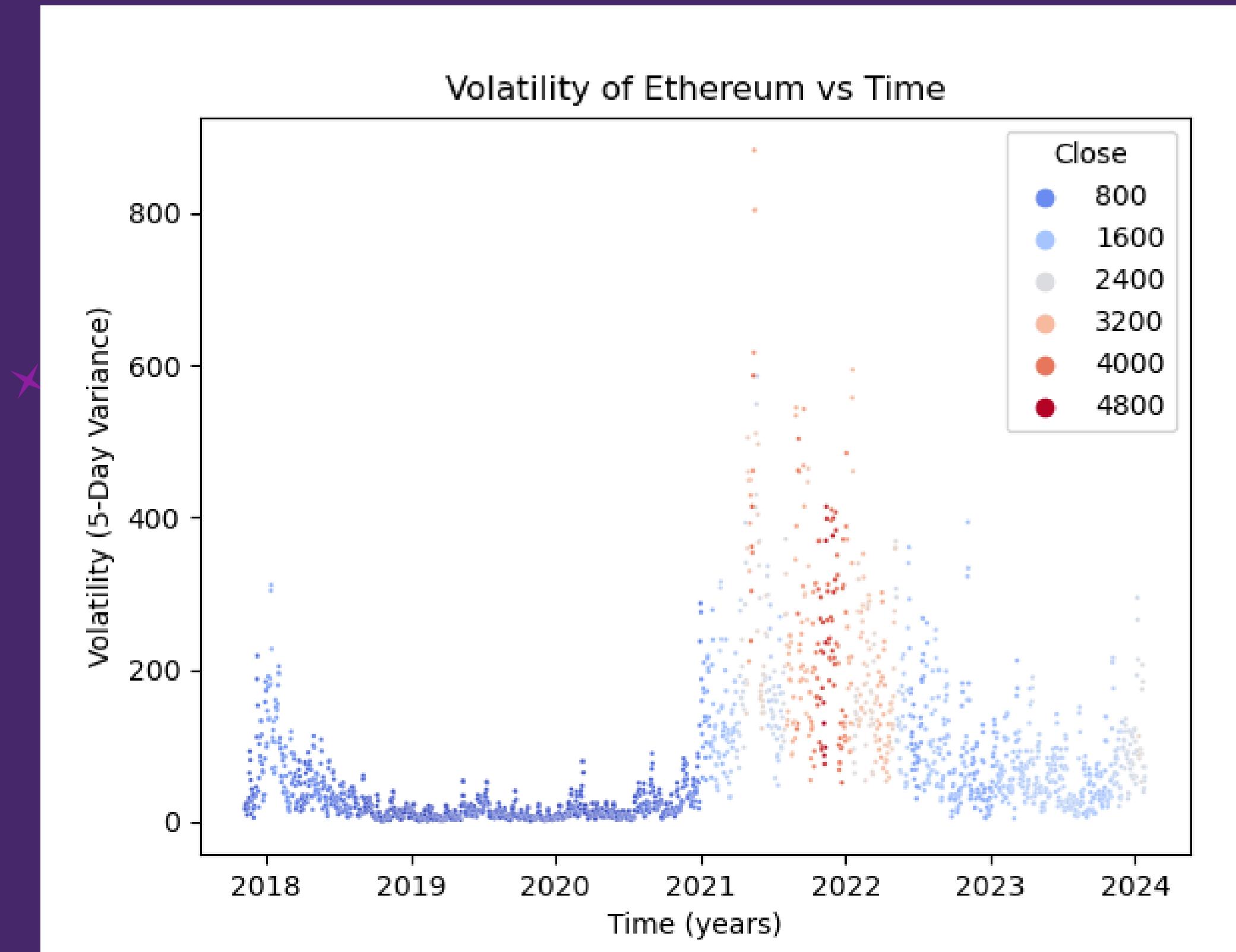
Price of Ethereum



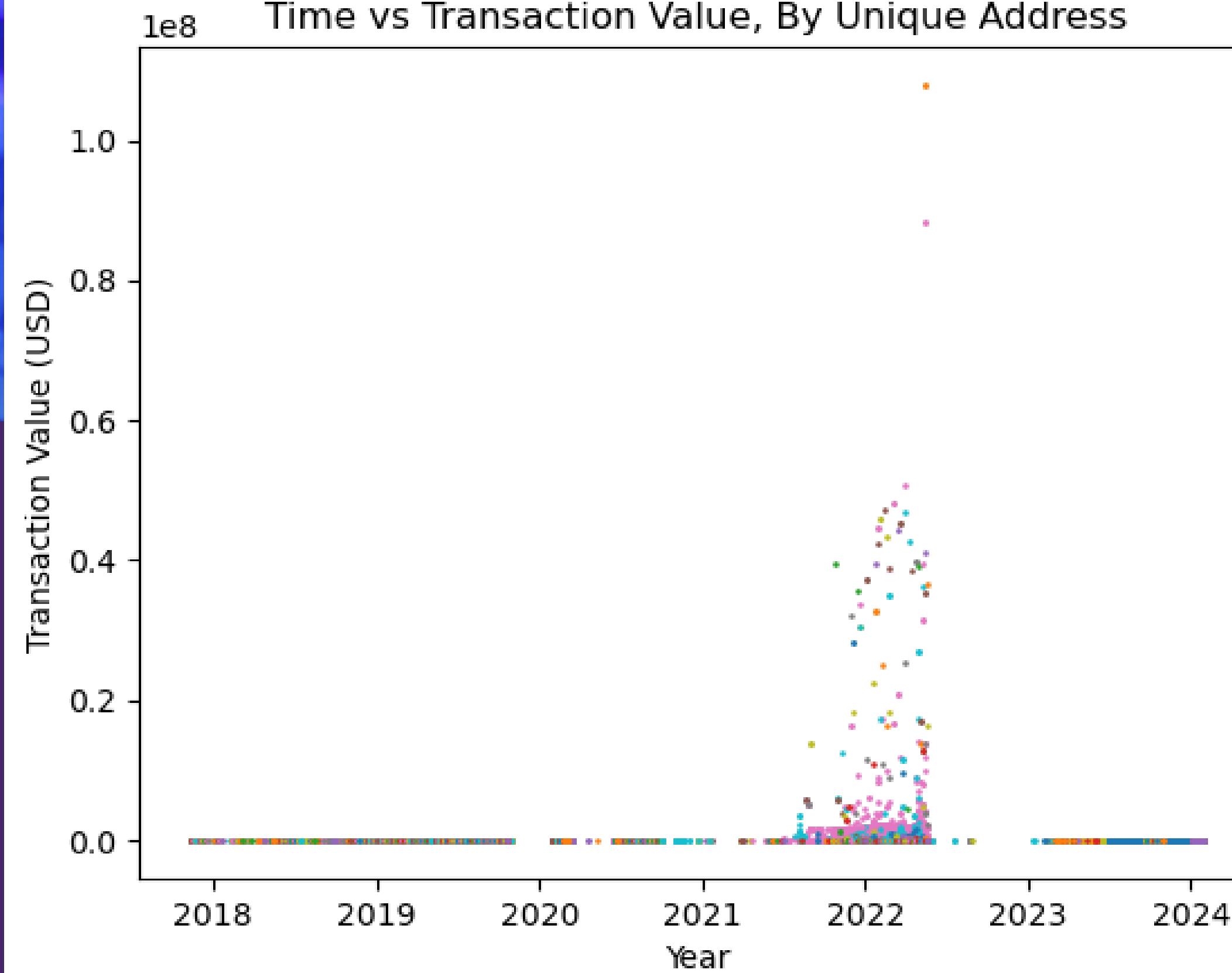
Hours of Operation (UTC)



Volatility



Time vs Transaction Value, By Unique Address

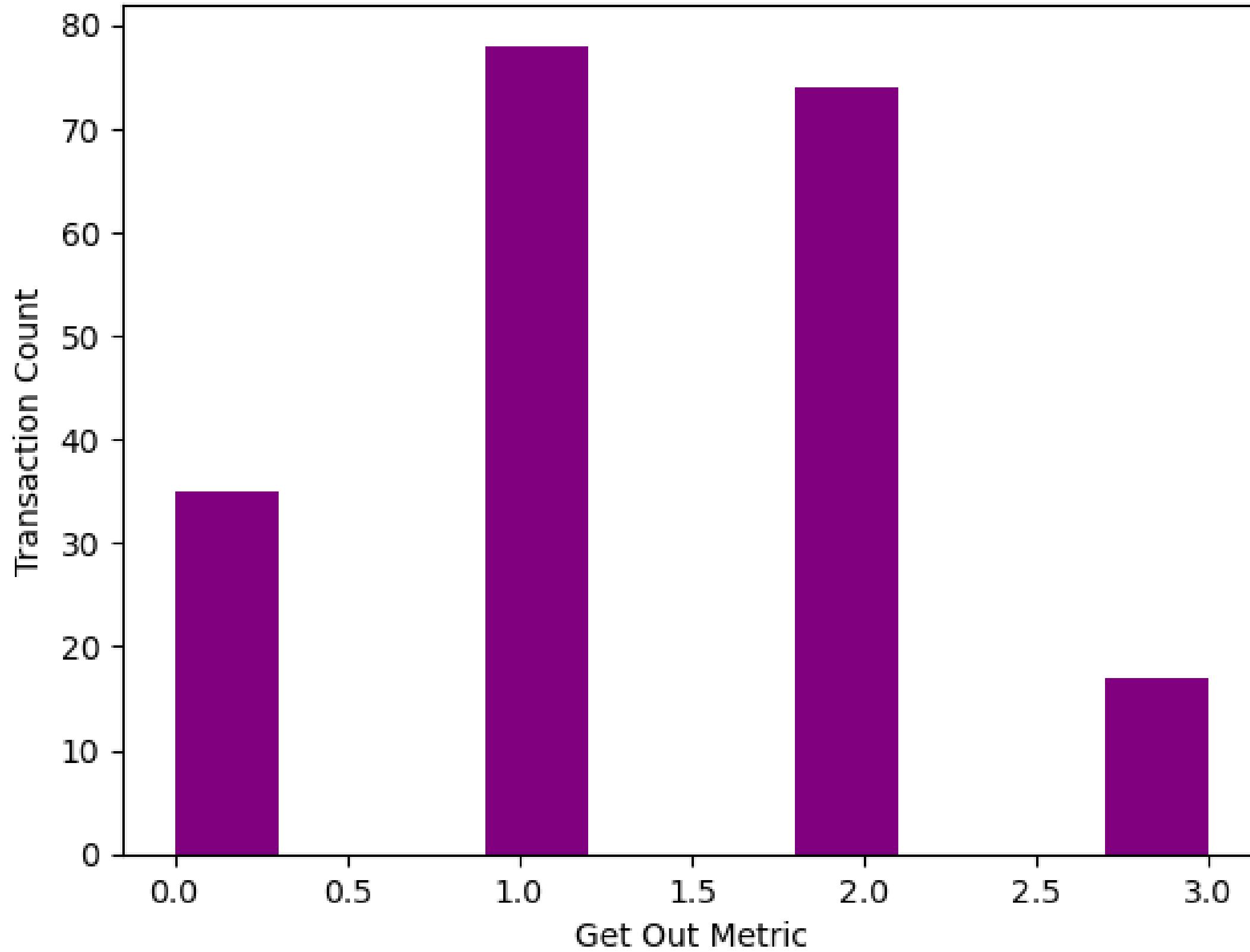


Clusters

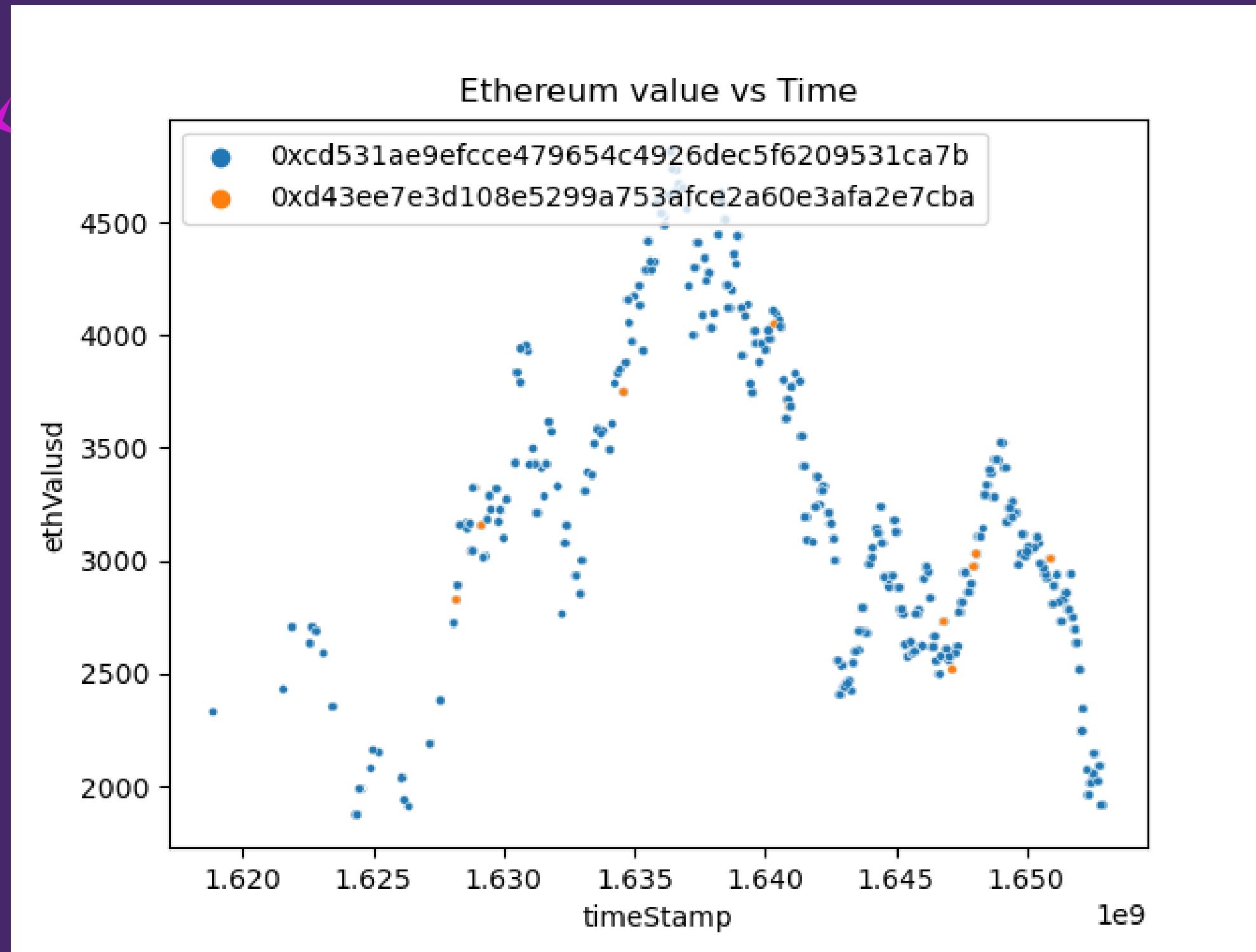


Individual Transaction Based Clustering

Cluster -1 get out metric distribution

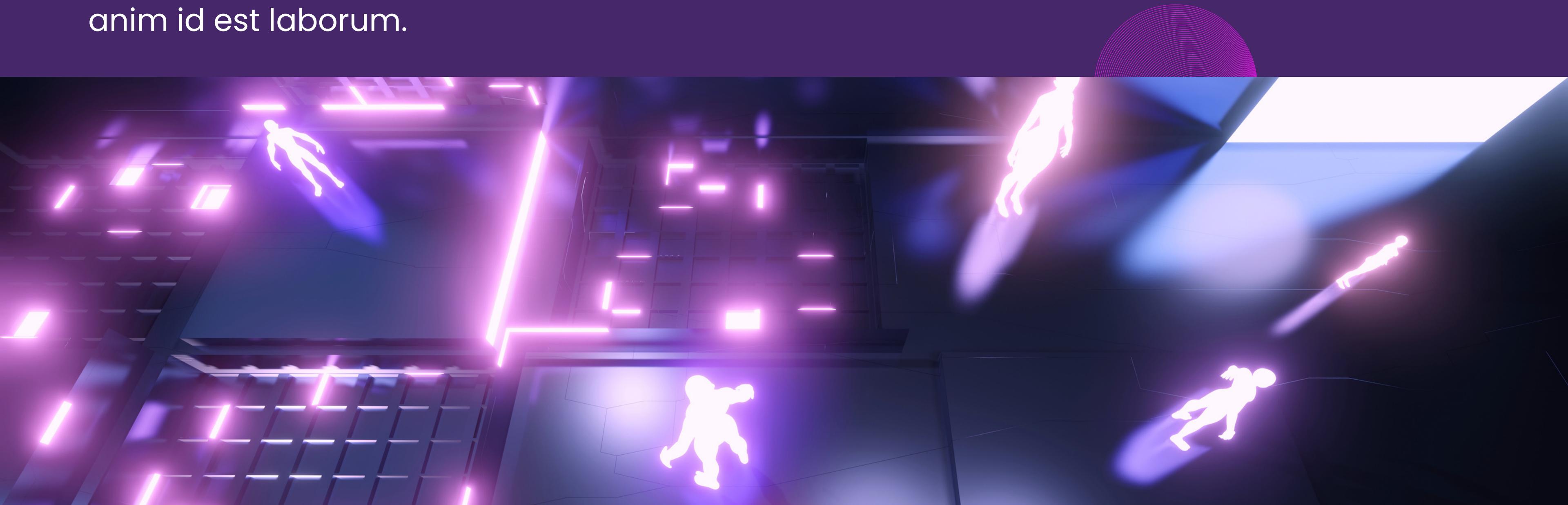


Individual Transaction Based Clustering

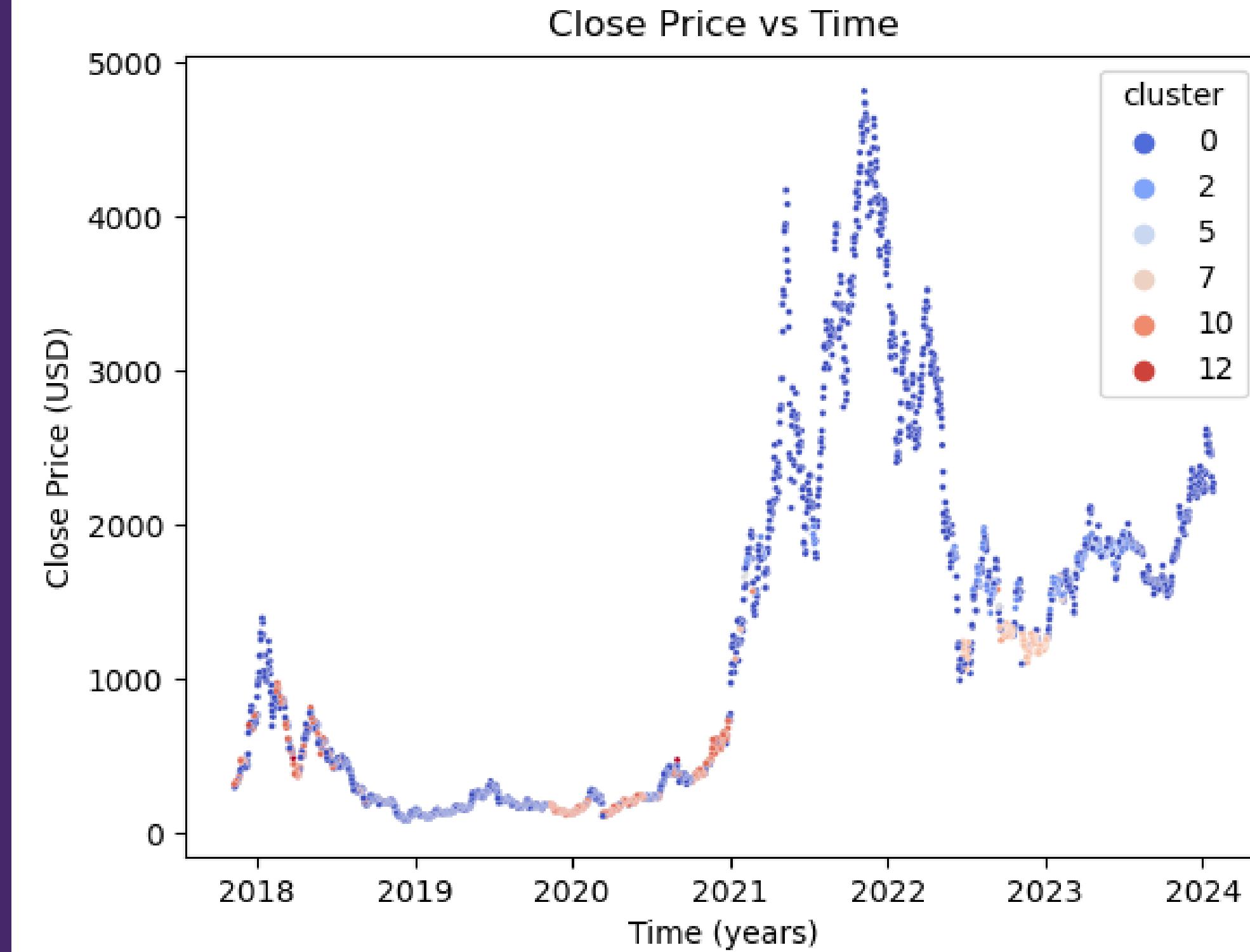


Our Vision

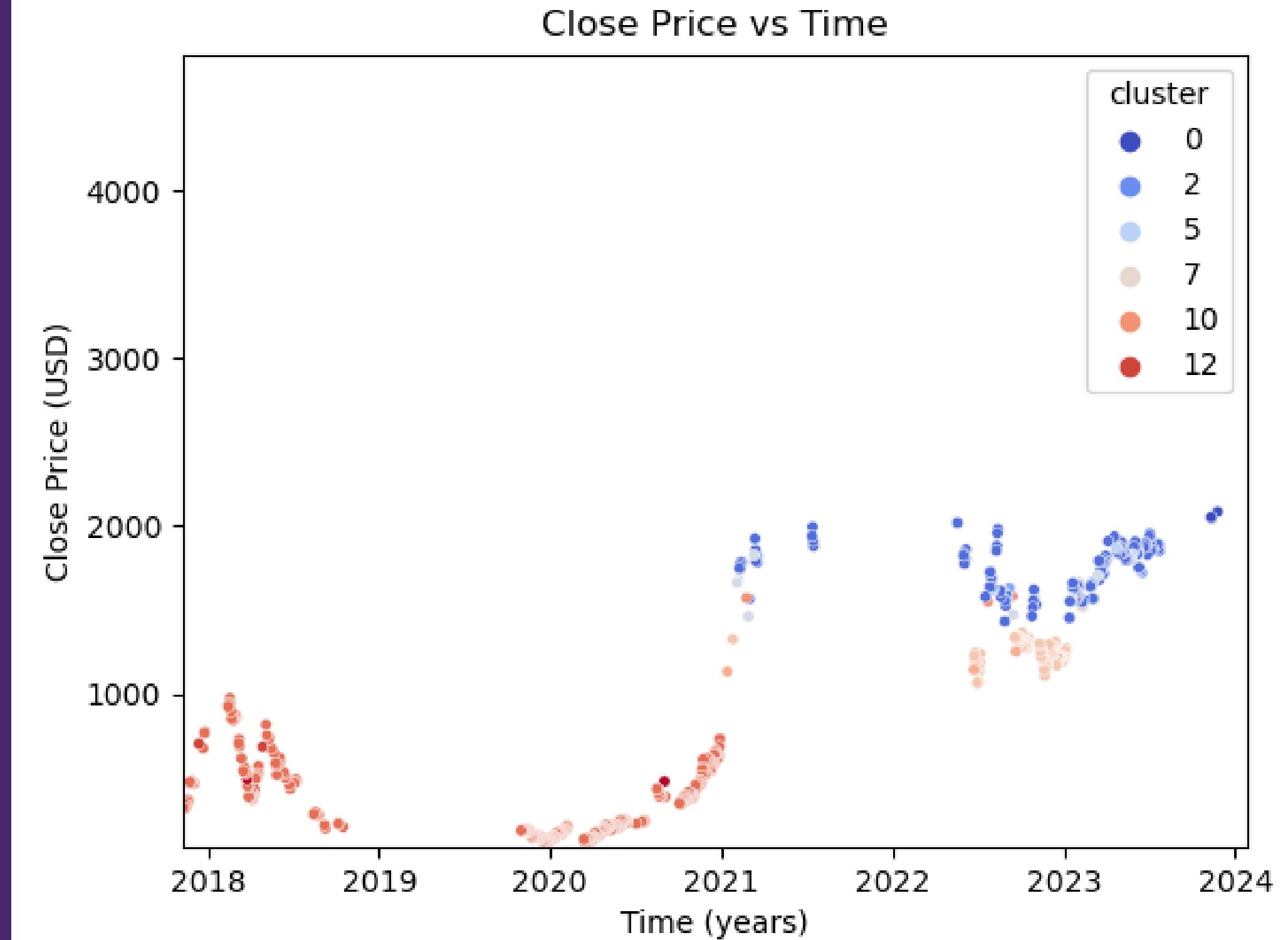
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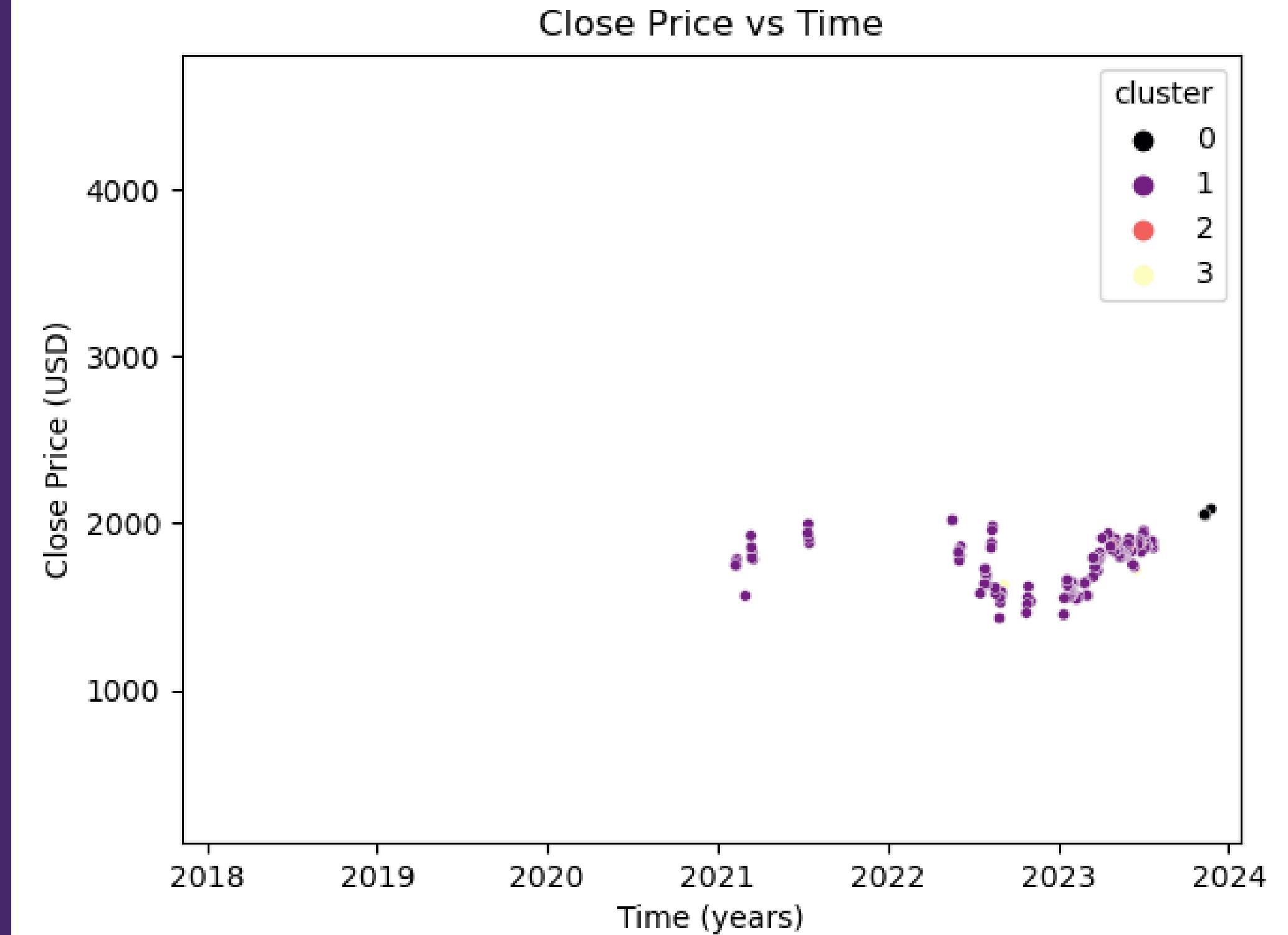
Ethereum Value-Time Based Clustering



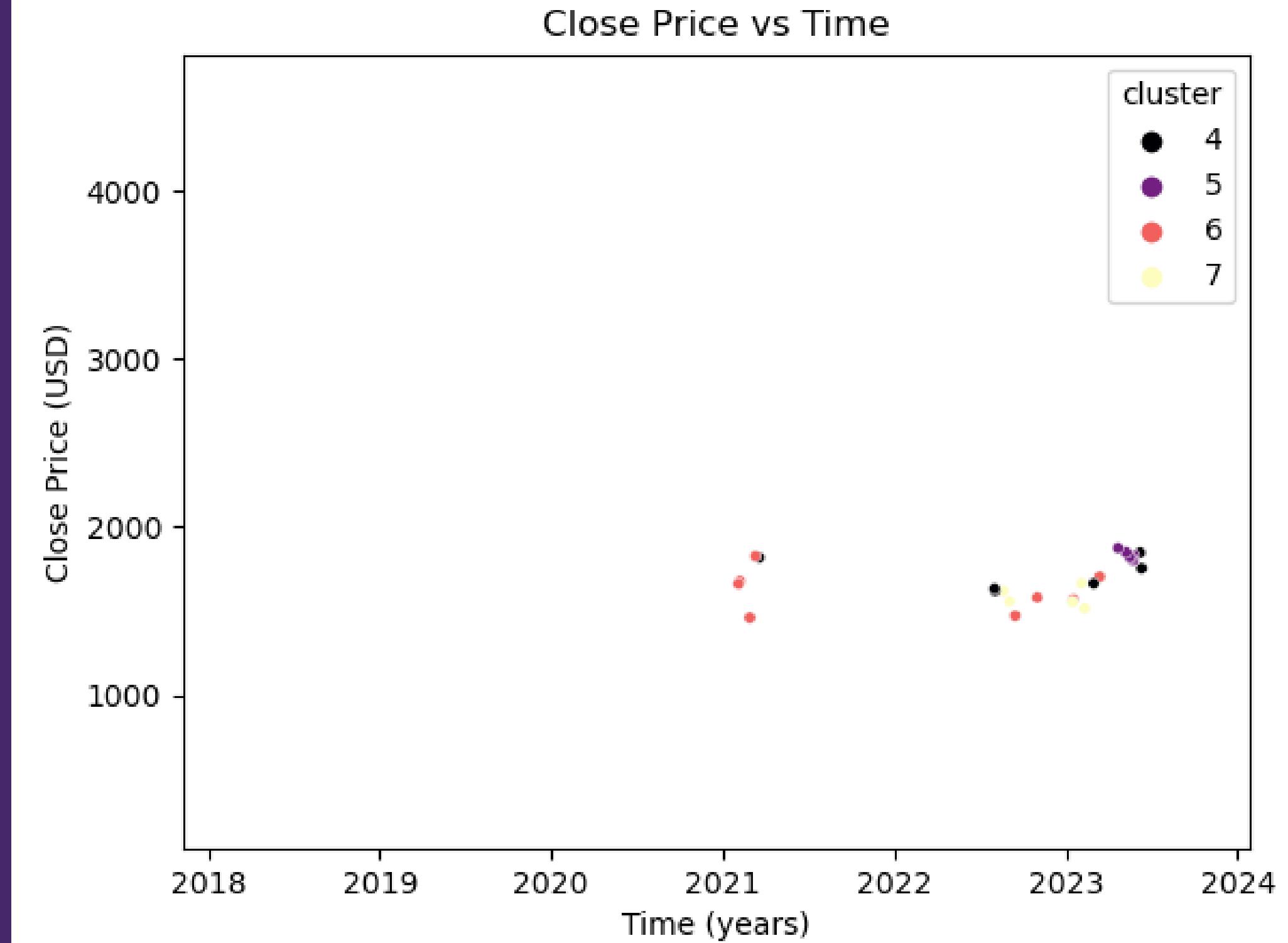
Ethereum Value-Time Based Clustering



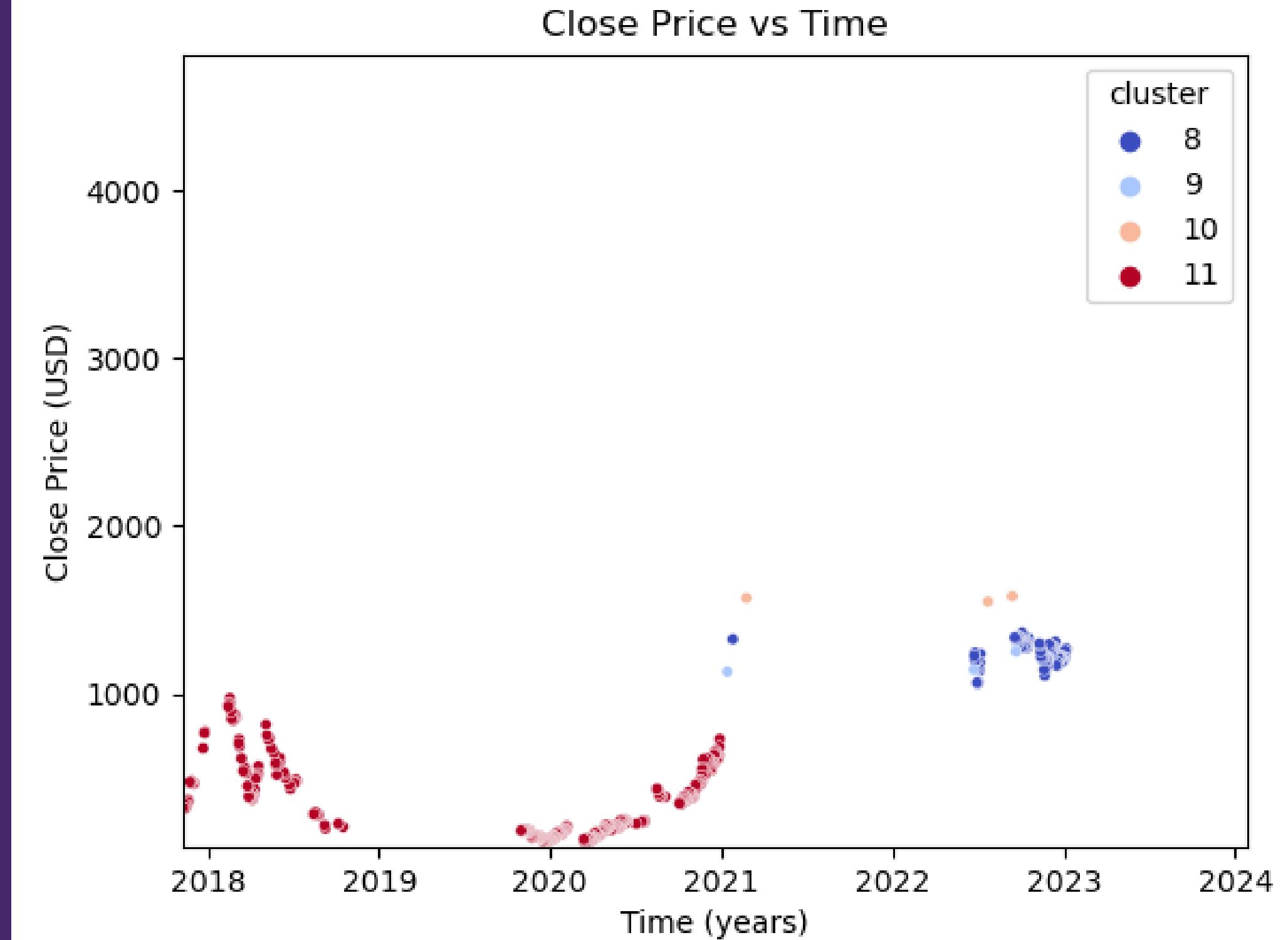
Ethereum Value-Time Based Clustering



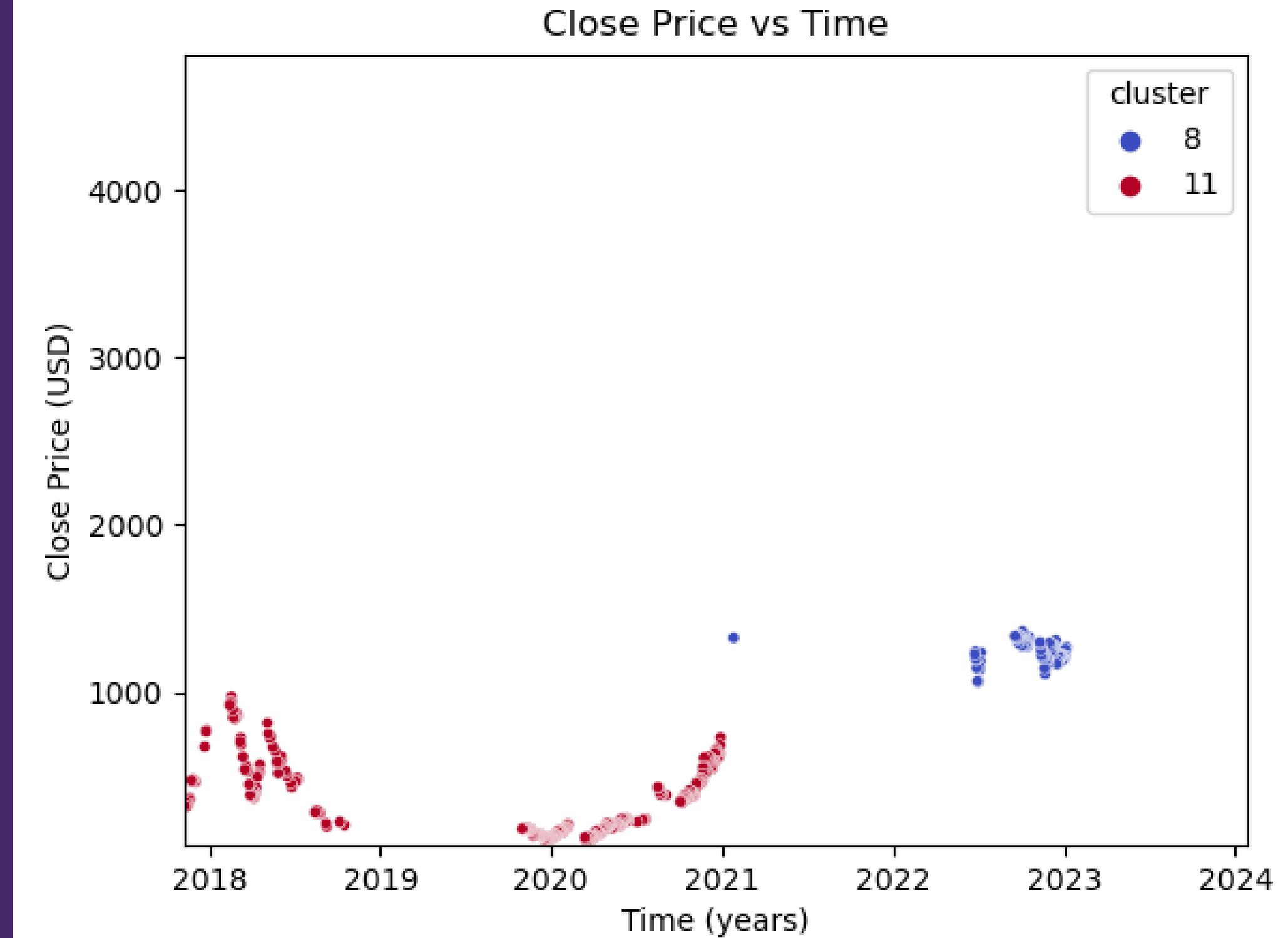
Ethereum Value-Time Based Clustering



Ethereum Value-Time Based Clustering



Ethereum Value-Time Based Clustering





Discussion

Out of 30k addresses, it looks like maybe 4 of them know what they are doing.

Moving Forward



Monitoring App



**Computational
Optimization**



Contract Focused Data-Scraping



Like-Clustered Addresses

THANK YOU.

Any Questions?

Visit Us

<https://github.com/mcdunleatae/>

