

# Historical analysis for live anomaly detection on Ripple's Blockchain



Berkeley  
Engineering

## Team

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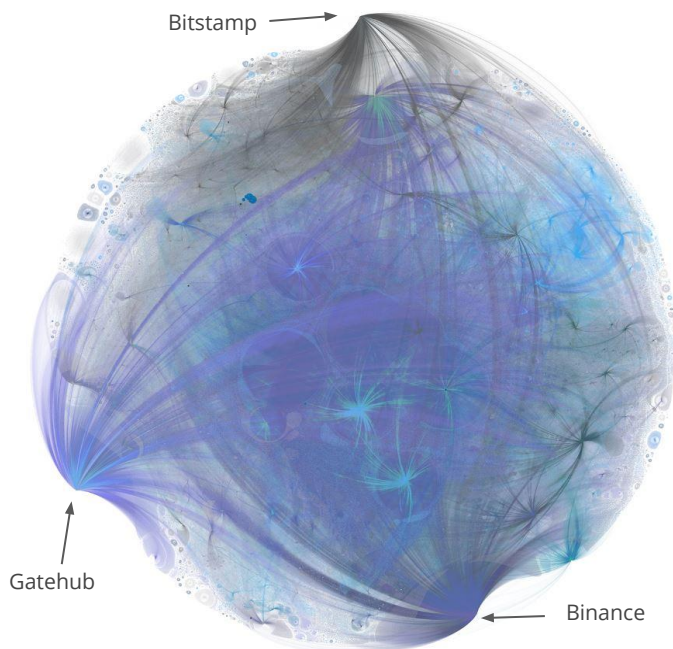
## Advisors

Paul Grigas (IEOR)  
Doug Purdy (Ripple)

*In the last decade, the use of cryptocurrencies has revolutionized the process of exchanging and transferring money to all corners of the world. However, the world of cryptocurrencies faces vulnerabilities. Sometimes coordinated attacks from hackers or big financial players can undermine the stability of those crypto networks. Our objective is to provide tools to monitor the business health of the network.*

## BACKGROUND

### The full XRP Ledger visualized



Source: <https://xrpccommunity.blog/the-full-xrp-ledger-visualized/>

## The XRP Ledger

Visualized below, where each node represents an account and each connections is a transaction between accounts. On the XRP Ledger, assets like Bitcoin or USD can be exchanged through the medium of XRP, Ripple's cryptocurrency.

## Ripple's Vision

Creating the new Internet of value, where money moves like information moves today: instantly, reliably, and for fractions of a penny.

## FINAL DELIVERABLES



### SlackBot

Our bot provides real-time notifications on anomalies of the ledger, allowing Ripple's community to be promptly informed of possible network attacks to be able to intervene fast. Anomalies are detected based on previous analysis of historical data, like the number of daily accounts created.



## Weekly Report

Digging into the large amount of information produced by the XRP ledger can be overwhelming. To facilitate this informational process, we instituted a weekly report to be sent out on Mondays, summarizing what happened on the ledger the week before.