Compound Wallet Risk Scoring Report

Project Workflow and Methodology

Data Collection

We collected transaction data for 100 Ethereum wallet addresses using the Covalent API. This API provides access to on-chain data from various DeFi protocols, including Compound V2 and V3. Each wallet's transaction history was queried using the endpoint:

https://api.covalenthq.com/v1/1/address/{wallet}/transactions_v2/

Feature Engineering

We selected features based on their relevance to wallet behavior and risk potential within lending protocols. These features provide insight into the wallet's DeFi engagement, transaction volume, and potential exposure to risk (e.g., larger transaction sizes).

Key features extracted:

- total_txn: Total number of transactions (proxy for activity)
- compound_txn: Number of transactions involving Compound protocol
- high_value_txn: Count of transactions over 1 ETH

Risk Scoring (0–1000 scale)

We used a simple rule-based scoring method where each wallet starts with a base score of 500. Adjustments are made as follows:

- +10 points for each Compound transaction
- -5 points for each high-value transaction

The score is then bounded between 0 and 1000. This provides a basic framework that can be enhanced later using statistical or machine learning models.

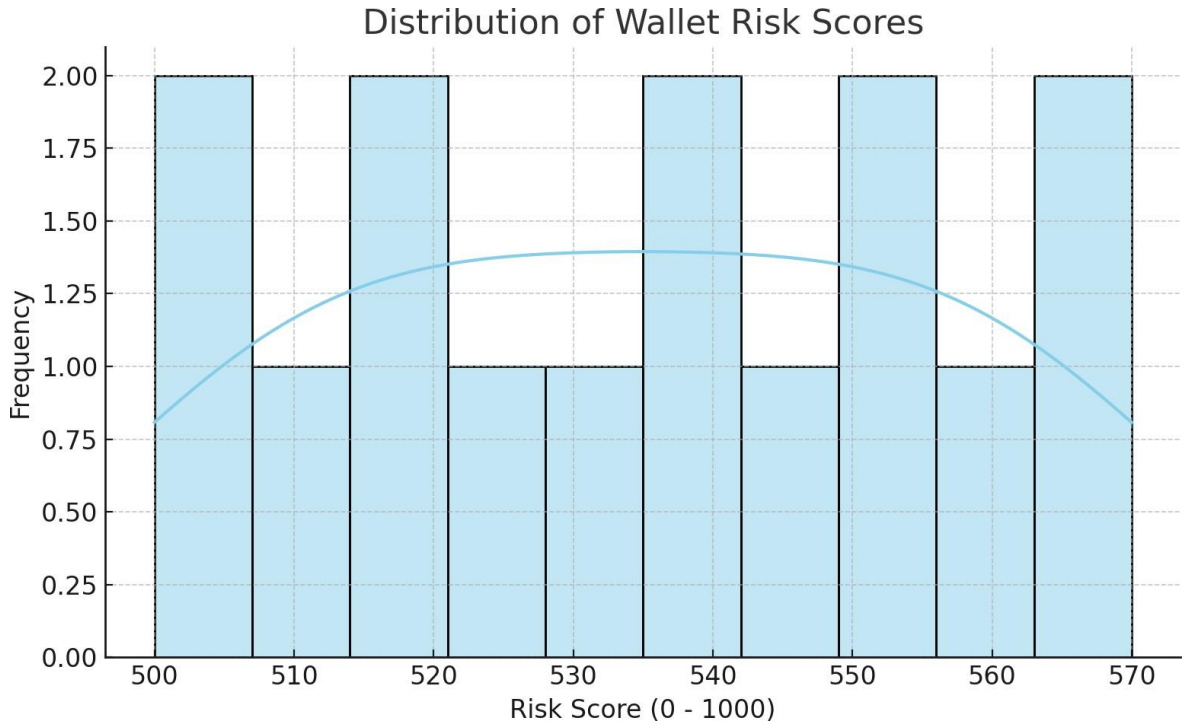
Justification of Risk Indicators

Risk in DeFi protocols can arise from over-leveraging, high-frequency large-volume trading, and active borrowing. Hence, the selected indicators reflect:

- Compound transaction count: Direct usage of lending/borrowing features
- High-value transactions: Potential exposure to liquidation or leverage
- Total transactions: General wallet activity level

Score Distribution

The histogram below visualizes the distribution of risk scores across the analyzed wallets:



Conclusion

This scoring framework lays the foundation for evaluating risk in decentralized finance. As more granular data is integrated and ML-based techniques are adopted, this model can be scaled for production use in wallet-level credit assessments.