

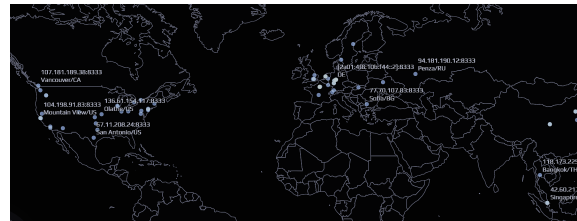


BA/MA/SA/Group:

Bitcoin Network Topology

Bitcoin is a decentralized dynamic peer-to-peer network. The security of the transactions is dependent on the information propagation time, hence the network topology is important for Bitcoin's operation. The protocol implements a specific way of connecting new peers to the existing network to ensure the graph structure resembles that of a random graph while obfuscating the network topology to protect against various attacks (e.g. eclipse attack).

In this thesis, you will delve into graph theory: random graphs, scale free graphs and different properties such as their degree distribution, diameter, clustering coefficient etc. You will examine the connectedness of the Bitcoin network and evaluate the fairness of the current protocol.



Requirements: Knowledge of probability theory. Knowledge of graph theory would be an advantage!

Interested? Please contact us for more details!

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