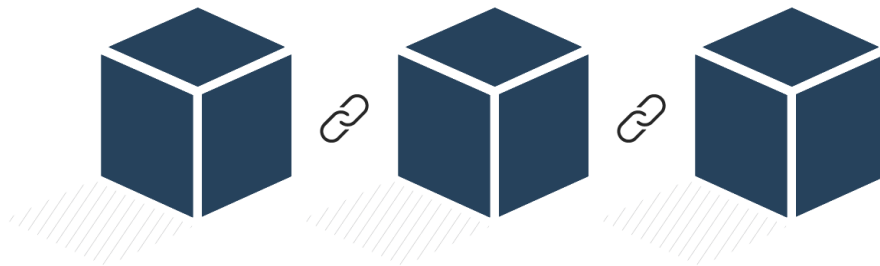




Incentivizing Simple Transactions

The inception of Bitcoin marked the creation of the first fully decentralized cryptocurrency relying on blockchain technology and electrified the world with its potential, namely the ability to securely execute financial transactions without having to rely on a central authority. Since then, various blockchains have emerged. Ethereum is of particular interest as it first introduced smart contracts. Smart contracts allow blockchains to build decentralized applications and handle complex financial transactions. Thus, the Ethereum blockchain does not only process simple transactions but also complex financial transactions.

However, these decentralized applications interconnect the vast majority of transactions in a block. Making it difficult to parallelize the execution of transactions and introducing throughput limits on Ethereum. Currently, transactions on Ethereum pay for the amount of computation they require. This does not take into account whether the transactions significantly impact the parallelizability of the block execution.



In this thesis, we want to explore a new approach to charge transactions on the blockchain. In particular, the approach aims to change the way in which transactions are charged to incentivize simple transactions, i.e., easily parallelizable transactions.

Requirements: The project will be mostly theoretical. Thus, a solid algorithmic and mathematical background is required. We will have weekly meetings to discuss open questions and determine the next steps.

Interested? Please contact us for more details!

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