



BA/MA/SA/Group:

Bitcoin as a Selfish Game

Cryptocurrencies are expected to be influential. Bitcoin is considered the “gold” of cryptocurrencies since it is the original, most famous cryptocurrency, with the largest market cap. However, many attacks have been proposed and not yet dealt with, e.g. selfish mining. From an economic point of view, honest mining might not be optimal when miners act as selfish agents. On the other hand, it seems that for small mining pools honest mining is optimal.

In this thesis, you will combine economics with cryptocurrencies and investigate some fundamental questions regarding this marriage. Ideally, you will focus on Nash Equilibria and optimal strategies of selfish miners on the Bitcoin network. A more realistic model where everyone acts as a selfish miner shapes a completely different network dynamic and your main task will be to explore it.



Requirements: Knowledge of blockchain technology and proof-of-work, cryptography, basic game theory.

Interested? Please contact us for more details!

Contacts

- Zeta Avarikioti: zetavar@ethz.ch, ETZ G95
- Conrad Burchert: bconrad@ethz.ch, ETZ G95