

Consensus Zoo

Paula Amstutz

Master thesis in Computer Science

A blockchain is a financial ledger with an unlimited number of transactions chained together and secured by cryptographic means. Lately, blockchain technology has become very popular since a central authority is not needed. However, having no central authority makes blockchain technology dependable on the consensus mechanism used. Different networks use different consensus mechanisms.

In this thesis, we are focused on analyzing different consensus mechanisms behind some popular blockchain networks. There are three main sections, namely algorithms, protocols, and networks. Each of them is analyzed through several categories. The Consensus Zoo website consists of twenty (for the time being) popular and successful blockchain networks, and the 15 consensus algorithms, and 19 protocols they use. Some examples of these networks are Bitcoin, Algorand, Ethereum, etc.

Prof. Christian Cachin