

Abstract

Decentralised Finance (*DeFi*) is an umbrella term for the parallel financial system currently being built, without banks, on blockchain technology (Chase, 2020). Blockchain started as a transaction medium with its first implementation being the Bitcoin network (Nakamoto, 2008), however now the entire financial system is being reimaged on blockchain technology. The total value locked (*TVL*) in decentralised finance protocols on the Ethereum blockchain network, which are essentially autonomous applications on the blockchain networks, has grown from approximately \$600m in January 2020 to approximately \$25 billion in January 2021 (Werner et al., 2021). With large volumes of cryptocurrency transactions being processed daily, new opportunities present themselves for trading and arbitrage.

The goal of the project will be to explore decentralised finance by implementing and evaluating novel trading and potential arbitrage methods on the Ethereum network. This will involve augmenting methods from traditional centralised finance (*TradFi*) and foreign exchange trading (*Forex*), along with exploring new opportunities presented due to the technical architecture of decentralised finance being built on blockchain technology.

The author will devise trading methods that are viable for decentralised markets, examine the implications of such strategies, and build a proof-of-concept system implementing such methods for evaluation.