

Title: Capacity Pricing in Decentralized Insurance

Abstract:

The Proof-of-Stake (PoS) consensus from blockchain technology has recently gained significant attention due to its advantages in energy efficiency, decentralization, and scalability. While PoS validators stake to validate transactions and resolve disputes, the same mechanism has been introduced to decentralized insurance for risk and claim assessment purposes. Although stakers have a financial incentive to act honestly because they have staked their own funds as collateral, the existing pricing mechanisms in decentralized insurance networks do not adequately account for the underlying riskiness, resulting in consistent losses for the business. In this paper, we explore a new on-chain pricing model that takes both the market demand and staking capacity into consideration. While it mitigates the underpricing problem, the new mechanism relies solely on staking pool managers' expertise to uncover riskiness and may cause unintended managerial behaviors related to capacity management and competition.