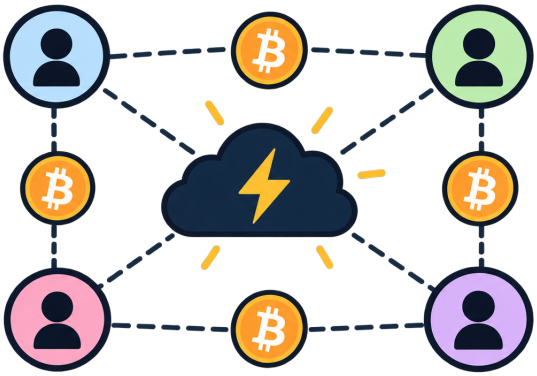
Network Privacy Enhancement in the Lightning Network



The Lightning Network is a decentralized payment network built on Bitcoin that enables fast and low-cost transactions. However, its payment-routing mechanisms may compromise user privacy against network adversaries capable of observing communication links.

In this master's thesis, we aim to improve the anonymity of the Lightning Network by integrating intelligent mixing techniques. The goal is to develop a mechanism that mixes different payment transactions to prevent adversaries from linking observed transactions to their originating clients, thereby enhancing user anonymity.

The student is expected to have a background in privacy, blockchain technology, and anonymous communication systems, along with strong Python programming skills.

Practicalities

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Nature of the work:	20% literature, 40% theoretical work, 40% software
Number of students:	1

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