

## **Private Data Management for Decentralized Ledgers**

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Over the last several years, distributed ledger technologies have gained popularity and taken many industries and world-leading enterprises by storm. Distributed ledgers provide high availability and integrity, making them a key enabler for practical and secure computation of distributed workloads among mutually distrustful parties. Many practical applications also require strong confidentiality, however. In this talk, I will discuss the benefits and challenges of managing private data over blockchains as well as different approaches to do so. Specifically, I will present CALYPSO, a new secure data-management framework for blockchains that addresses the challenge of providing fair and verifiable access to confidential information without relying on a trusted party. Calypso provides accountability for all accesses to confidential data, ensures that data owners retain control over the data they share and allows data consumers to access data even when their digital identities (public keys) change. Lastly, I will share experimental results and discuss real-world deployments of CALYPSO.