CAREER: Algorithmic Foundation of Blockchains
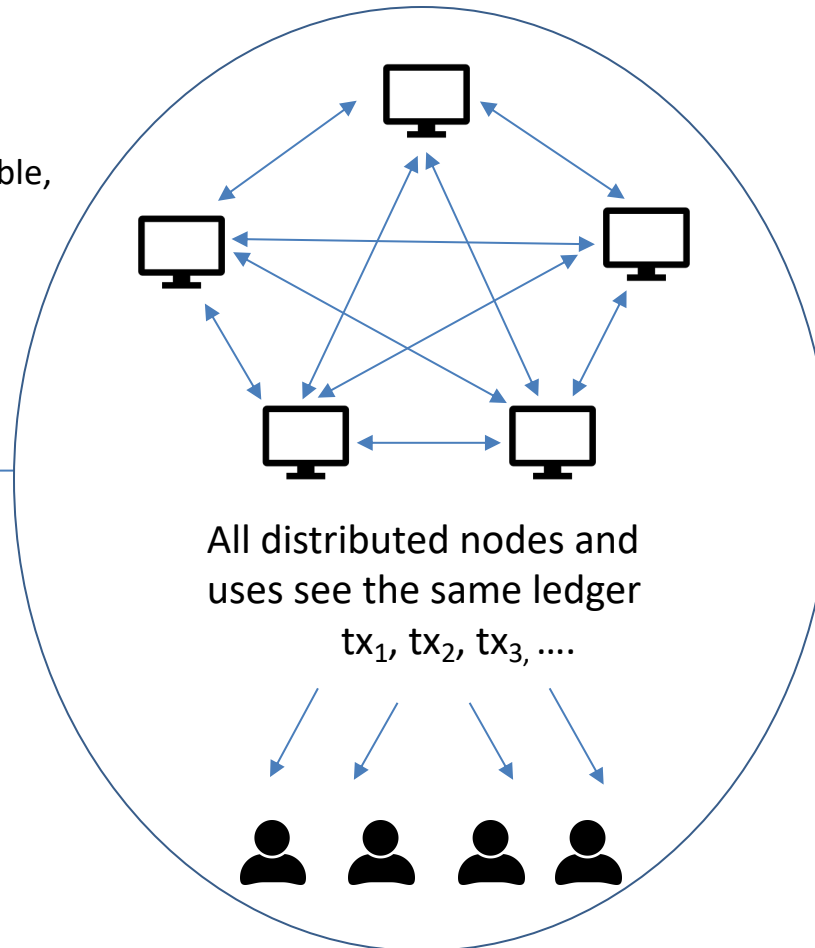

UNIVERSITY OF **ILLINOIS** URBANA-CHAMPAIGN

Challenge:

- Building a more accessible, rigorous, practical, and unifying foundation for blockchains

Scientific Impact:

- Understand the security of blockchains in practice
- Set paradigm for realistic models and constraints for secure distributed systems
- Systematizing knowledge across communities working on blockchains

All distributed nodes and uses see the same ledger $tx_1, tx_2, tx_3, \ldots$

Solution:

- Investigate the exact security of blockchains
- Contrast blockchains with classic consensus protocols to identify its key innovations

Broader Impact and Broader Participation:

- Provide guidance to blockchain designs in industry
- Develop new courses on blockchains and secure distributed systems