CIS700: Security Protocols with Application to Blockchains

Dr. Yuzhe Tang, Email: ytang100@syr.edu, Phone: 315.443.4350, Office: 4-193 CST

Long-term Goals

Big questions to answer in this seminar:

- "What's the future of Ethereum?"
- "What's the future of DApp and DAO?"
- "How can Blockchain be intergrated with trendy topics"

Schedule (Tentative)

- Topic 1: Blockchain learning
    - Read Ethereum source code
        - Reports & lectures
    - Read codebase change (EIP, BIP, ERC)
        - Reports & lectures
    - Read JS code in Contract-based DApps
        - Reports & lectures
        - Programming projects (Reinvent the wheel)
    - Read protocol papers: blockchain applications, altcoin blockchain design
        - Lectures
- Topic 2: Information-security protocols and security infrastructures
    - Theory: Textbook learning
        - Lectures
        - Research paper presentations
    - Practice: Measurement

Texts

- Mastering Ethereum: Smart contract and decentralized applications, Andreas M. Antonopoulos, Gavin Wood [online book]
- Mastering Bitcoin: Programming the Open Blockchain, Andreas Antonopoulos, [online book]
- Information Security, Mark Stamp

Reading Papers

Grading

Programming projects/paper presentations (50%), reports & lectures (50%).