CIS700: Security Protocols with Application to Blockchains

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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** and latest code changes (**EIP, BIP, ERC**)
  - Track **ethereum.stackexchange.com** for interesting questions
  - Read **off-chain 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%).