Bolin Zhang
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EDUCATION

University of Illinois at Urbana-Champaign   Urbana, United States, August 2022 –
(In Progress) Bachelor of Engineering: Electrical Engineering
- GPA: 4.0/4.0
- Selected Courses: CS 225: Data Structures (A+), ECE 220: Computer Systems & Programming (A), CS 374: Intro to Algs & Models of Comp (A+)

Zhejiang University   Hangzhou, China, September 2020 – June 2022
(Completed 2 years of study) Electrical Engineering
- GPA: 3.98/4.0

RESEARCH EXPERIENCE

Research Intern, University of Illinois   January 2023 –
- Participate in the implement and experiment of an ongoing research on Parallel BFT, which is an adaptive asynchronous SMR protocol making round-complexity improvements on Bolt Dumbo Transformer and Jolteon and Ditto.
- Accepted by CCS 2023, available on Archive: https://eprint.iacr.org/2023/679

WORK EXPERIENCE

Block Chain Develop Intern, Hyperchain Technologies   June 2022 – August 2022
- Proposed a specific smart contract implementation for the paper *"A Universal Minimum Value Secure Multi-Party Computation Protocol"* submitted to *Journal of Software* (in Chinese).
    - Responsible for the construction, operation, and analysis of the specific experimental environment, as well as writing a major fraction of the manuscript.
    - The experiment utilized a centos7 cloud server to deploy 4 hyperchain2.2 nodes. We implemented the zk-snark protocol by libsnark and implemented privacy and/or using the BMR protocol in SPDZ.
- Rewrote BAYC and Uni-Swap (originally in solidity) in Java to deploy and test them on HVM (an VM supports java contracts implemented by the company).
- Proposed an safety attack on the protocol proposed by the paper "*A multi-person off-chain payment scheme supporting high concurrency*" (in Chinese).

PROJECTS

Research on NLP Application in Power Systems   June 2021 – August 2021
- Constructed an CNN to classify the severity of power system defect texts under Pytorch.
- Trained word vectors as distributed representations and merged synonyms.
- Utilized jieba framework and the lab's own power system defect dictionary for word segmentation.
- Compared to previous work in the lab, we kept the word vectors of numbers fixed while training CNN. The model reduced the serious deviation rate to 0.80% from 1.03%.

CSGO Community (curriculum-based project)   September 2022 – December 2022

- Implemented login, market, and user profile interface by React.js.
- Realized REST API and a full-duplex communication between the server and browsers using Express.js.
- Deployed the whole app to the Google App Engine and connected it with Cloud SQL with Unix Socket.
- Included basic CRUD functions, advanced stored procedure, and triggers in SQL.

TECHNICAL SKILLS
- OOP Languages: Java, Python, C++, Solidity
- Web Development: JavaScript, HTML/CSS, Node.js, React.js, Git, Maven
- Database: MySQL, MongoDB, Neo4j