Bolin Zhang
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EDUCATION

University of Illinois at Urbana-Champaign　　　　　**United States, August 2022 –**

(In Progress) Bachelor of Science: 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　　　　　　　　　　　　　　**China, September 2020 –**

(In Progress) Electrical Engineering
- GPA: 3.98/4.0

RESEARCH EXPERIENCE

Research Intern, University of Illinois　　　　　　**January 2023 –**
- Participated in the innovation, implementation, and experiment of Parallel BFT, an adaptive asynchronous SMR protocol making round-complexity improvements on Bolt Dumbo Transformer and Jolteon and Ditto.
- Accepted by CCS 2023 and published, available on: [https://dl.acm.org/doi/10.1145/3576915.3623101]

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 a 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