XUANMING (HINS) LIU

Yuquan Campus, Zhejiang Univerisity

Hangzhou, Zhejiang, China

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EDUCATION

Zhejiang University   **Hangzhou, China**

Ph.D. in Computer Science   *Sept. 2022 - Now*
Advised by *Prof. Xiaohu Yang*

Zhejiang University   **Hangzhou, China**

Bachelor of Engineering (B.Eng.) in Software Engineering   *Sept. 2018 - June. 2022*
Overall GPA: 3.97/4.0 (90.47/100)
- Minored in the *Advanced Class of Engineering Education (ACEE Class)* at *Chu Kochen Honors College*, a distinguished program selecting only 40 engineering students annually.

RESEARCH EXPERIENCE

Blockchain Research Center, Zhejiang University   *Sept. 2022 - Now*
Advised by *Prof. Xiaohu Yang* on blockchain technologies.
- Focusing primarily on designing efficient constructs and applications for blockchain using zero-knowledge proofs and related techniques.

Security Lab, National University of Singapore   *Aug. 2024 - Jan. 2025*
Advised by *Prof. Jiaheng Zhang* on zero-knowledge proofs and AI security.
- As research assistant working on the theory and application about zero-knowledge proofs and its application.

PUBLICATIONS (CHRONOLOGICAL ORDER)

Chasing the Dragon: Unveiling and Quantifying Sandwich Attacks on Solana [code]
Xuanming Liu, Yujing Chen, Zhiyuan Wan, Guangyu Peng, Chao Hui, Difan Xie and Xiaohu Yang.
- Under review.

Why Is My Transaction Risky? Understanding Smart Contract Semantics and Interactions in the NFT Ecosystem
Yujing Chen, *Xuanming Liu*, Zhiyuan Wan, Zuobin Wang, David Lo, Difan Xie and Xiaohu Yang.
- Accepted by *Automated Software Engineering (ASE)*, 2025.

Scalable Collaborative zk-SNARK and Its Application to Fully Distributed Proof Delegation [pdf] [code]
Xuanming Liu, Zhelei Zhou, Yinghao Wang, Yanxin Pang, Jinye He, Bingsheng Zhang, Xiaohu Yang and Jiaheng Zhang.
- Accepted by *USENIX Security*, 2025.

DeepFold: Efficient Multilinear Polynomial Commitment from Reed-Solomon Code and Its Application to Zero-knowledge Proofs [pdf] [code]

Yanpei Guo, *Xuanming Liu*, Kexi Huang, Wenjie Qu, Tianyang Tao and Jiaheng Zhang.
- Accepted by *USENIX Security*, 2025.

ZK-GPT: An Efficient Non-interactive Zero-knowledge Proof Framework for LLM Inference [pdf]

Wenjie Qu, Yijun Sun, *Xuanming Liu*, Tao Lu, Yanpei Guo, Kai Chen and Jiaheng Zhang.
- Accepted by *USENIX Security*, 2025.

SmartZKCP: Towards Practical Data Exchange Marketplace Against Active Attacks [pdf] [code]

Xuanming Liu, Jiawen Zhang, Yinghao Wang, Xinpeng Yang and Xiaohu Yang.
- Accepted by *Blockchain: Research and Applications*, 2025.

πFL: Private, Atomic, Incentive mechanism for Federated Learning based on Blockchain [pdf]

Kejia Chen, Jiawen Zhang, *Xuanming Liu*, Zunlei Feng and Xiaohu Yang.
- Accepted by *Blockchain: Research and Applications*, 2025.

ENTREPRENEURSHIP EXPERIENCE

MatchUs

Co-founder and the technical lead   *2021 - 2023*
- Co-founded this social networking platform designed to connect students with similar interests and personalities, helping them find ideal partners and foster meaningful relationships.
- The platform has served over 30,000 per users, with 15% successfully forming meaningful friendships.
- Currently undergoing an alpha test at Zhejiang University, with plans for expansion to more universities in the future.

WORK EXPERIENCE

Bytedance Ltd. / Tiktok   Hangzhou, China
Backend development engineer   *March 2021 - July 2021*
- Engaged in backend development for a supply-chain management system, utilizing *Java*.

Hyperchain   Hangzhou, China
Blockchain engineer   *August 2021 - January 2022*
- Contributed to the development of a WASM virtual machine for blockchain, employing *Golang*.

TEACHING EXPERIENCE

Blockchain and Digital Currency   **Zhejiang University** *2022 - 2024*
- Served as a *teaching assistant and assistant lecturer* for three consecutive years, guiding students in smart contract with Solidity and the design of decentralized applications (dApps).
- Comprehensive instructional materials are provided.
- Assigned and graded different homework each year, focusing on the design and implementation of dApps. Some examples.

LEADERSHIP

Vice-President of the *ZJU Internet Association (ZJUINA)*. *2022 - 2023*
Core Member of the *ZJU Blockchain Association (ZJUBCA)*, a student organization with
considerable recognition in the global blockchain community. *2022 - 2024*
Core Contributor to the organizing of the *Ethereum Hangzhou Hackathon (ETH Hangzhou)*,
a hackathon endorsed by *the Ethereum Foundation*. *2023*

SELECTED AWARDS

Finalist Prize, Mathematical Contest in Modeling (MCM), 2021. Awarded to the top 2% of
over 10,000 teams worldwide.
Zhejiang Provincial Government Scholarship, 2019 - 2022.
Outstanding Graduates of Zhejiang University, 2022.
Received various awards in multiple Web3 hackathons, since 2022 to the present.

SELECTED SOFTWARES AND PROJECTS

Scalable-Collaborative-zk-SNARKs [Github] *2024*
- Two *Rust*-implemented collaborative zk-SNARKs for Libra and HyperPlonk, featuring fully
distributed proof generation. The efficiency of these collaborative zk-SNARKs improves the
corresponding prover in terms of time and space cost.

Find-Relevant-CSRankings-Professors [Github] *2024*
- A public goods aimed at helping pre-PhD students find the most suitable graduate advisors.
- Implemented in *Python*, it automates the search for professors and their publications on
CSrankings and Google Scholar, and matches them with students based on the alignment of
academic interests.

InsPilot [Github] *2023*
- *Fullstack* implementation for InsPilot: a multimodal creative stimulus system that aids design-
ers in generating motivational ideas by leveraging the capabilities of ChatGPT and StableDif-
fusion.

ZKTI [Github] *2023*
- A *C++*-implemented zero-knowledge truth inference system, creating a framework to enable
verifiable crowdsourcing truth inference with the aid of zero-knowledge proofs.

SiriusDB [Github] *2021*
- A *Java*-implemented distributed database system prototype emphasizing availability and fault
tolerance, utilizing Zookeeper.