

XUANMING (HINS) LIU

Yuquan Campus, Zhejiang University

Hangzhou, Zhejiang, China

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🔗 <https://github.com/LBruyne>

EDUCATION

Zhejiang University

Hangzhou, China

Master of Engineering (M.Eng.) in Computer Science

Sept. 2022 - Expected March. 2025

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 - Expected March. 2025

Advised by Prof. Xiaohu Yang on blockchain technologies.

- Focusing primarily on designing efficient constructs for zero-knowledge proofs and related applications.

Security Lab, National University of Singapore

Aug. 2024 - Expected Jan. 2025

Advised by Prof. Jiaheng Zhang on zero-knowledge proofs and AI security.

- A visiting student working on the theory and application about zero-knowledge proofs and AI security.

PUBLICATIONS (CHRONOLOGICAL ORDER)

Scalable Collaborative zk-SNARK and Its Application to Efficient Proof

Outsourcing [pdf] [code]

Xuanming Liu, Zhelei Zhou, Yinghao Wang, Jinye He, Bingsheng Zhang, Xiaohu Yang and Jiaheng Zhang.

- Under submission at USENIX Security '25 Cycle 2.

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.

- Under submission at USENIX Security '25 Cycle 1 (*Minor Revision*, please visit my website for further updates).

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

Wenjie Qu, Yijun Sun, Xuanming Liu, Tao Lu, Yanpei Guo, Kai Chen and Jiaheng Zhang.

- Under submission at USENIX Security '25 Cycle 1 (*Major Revision*, please visit my website for further updates).

Crust: Verifiable and Efficient Private Information Retrieval With Sublinear Online Time [pdf]

Yinghao Wang, *Xuanming Liu*, Jiawen Zhang, Jian Liu and Xiaohu Yang.

- Under submission.

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

Xuanming Liu, Jiawen Zhang, Yinghao Wang, Xinpeng Yang and Xiaohu Yang.

- International Conference on Blockchain Research and Applications (BCRA), 2024.

π FL: Private, Atomic, Incentive mechanism for Federated Learning based on Blockchain

Kejia Chen, Jiawen Zhang, *Xuanming Liu*, Zunlei Feng and Xiaohu Yang.

- International Conference on Blockchain Research and Applications (BCRA), 2024.

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

Backend development engineer

Hangzhou, China

March 2021 - July 2021

- Engaged in backend development for a supply-chain management system, utilizing *Java*.

Hyperchain

Blockchain engineer

Hangzhou, China

August 2021 - January 2022

- Contributed to the development of a WASM virtual machine for blockchain, employing *Golang*.

Zecrey Labs

Cryptography and smart contract researcher

Remote

March 2022 - June 2022

- Participated in the creation of a privacy-preserving layer-2 solution for Ethereum.

ZeroBase

Zero-knowledge proofs researcher

Remote

March 2024 - June 2024

- Participated in the research of zero-knowledge proofs acceleration.

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 designers in generating motivational ideas by leveraging the capabilities of ChatGPT and StableDiffusion.
- 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.