# XUANMING (HINS) LIU

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Hangzhou, Zhejiang, China
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## 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 - 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 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.
- Accepted by *USENIX Security*, 2025.

**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.
- Accepted by *USENIX Security*, 2025.

**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.
- Accepted by *Blockchain: Research and Applications*, 2025.

**$\pi$FL: 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*.

**Zecrey Labs** **Remote**
*Cryptography and smart contract researcher* *March 2022 - June 2022*
- Participated in the creation of a privacy-preserving layer-2 solution for Ethereum.

**ZeroBase** **Remote**
*Zero-knowledge proofs researcher* *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.