

# XUANMING (HINS) LIU

Yuquan Campus, Zhejiang University

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🔗 <https://github.com/LBruyne>

## EDUCATION

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**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

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**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)

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**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.

## $\pi$ 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

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### 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

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### 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*.

## TEACHING EXPERIENCE

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### 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

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**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

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**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

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**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.