

Bing-Jyue Chen

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Research interest

Zero Knowledge Machine Learning (ZKML)

Education

University of Illinois Urbana-Champaign (UIUC)

Urbana, IL, United States

PHD STUDENT IN COMPUTER SCIENCE

Aug. 2023 –

- Design and construct ZKML frameworks with practical prover overhead.

National Taiwan University (NTU)

Taipei, Taiwan

MASTER OF SCIENCE IN COMMUNICATION ENGINEERING

Sep. 2019 – Jun. 2021

- Investigated browser fingerprinting-based anomaly detection and the blockchain scalability.

National Taiwan University (NTU)

Taipei, Taiwan

BACHELOR OF SCIENCE IN ELECTRICAL ENGINEERING

Sep. 2015 – Jun. 2019

- Leader of NTU Sunrise, the oldest Buddhist club in Taiwan.

Publications

- [1] **Bing-Jyue Chen**, Ting-Han Jian, and Tsungnan Lin. 2021. B++: A High-Throughput Proof-of-Work based Blockchain with Eventual Consistency. 2021 IEEE International Conference on Communications (ICC).
- [2] **Bing-Jyue Chen**, Wun-Cing Liou, Hsing-Yu Shih, and Tsungnan Lin. 2021. DRAGON: Detection of Related Account Groups for Online services with uncertain graphs. 2021 IEEE Global Communications Conference (GLOBECOM).
- [3] **Bing-Jyue Chen** and De-Nian Yang. 2022. User Recommendation in Social Metaverse with VR. In Proceedings of the 31st ACM International Conference on Information & Knowledge Management (CIKM).
- [4] Maciej Styczen, **Bing-Jyue Chen**, Ya-Wen Teng, Yvonne-Anne Pignolet, Lydia Chen, and De-Nian Yang. 2022. Targeted Influence with Community and Gender-Aware Seeding. In Proceedings of the 31st ACM International Conference on Information & Knowledge Management (CIKM).
- [5] **Bing-Jyue Chen**, Chiok Yew Ho, and De-Nian Yang. 2024. AFTER: Adaptive Friend Discovery for Temporal-spatial and Social-aware XR. 2024 IEEE International Conference on Data Engineering (ICDE).
- [6] **Bing-Jyue Chen**, Suppakit Waiwitlikhit, Ion Stoica, and Daniel Kang. 2024. ZKML: An Optimizing System for ML Inference in Zero-Knowledge Proofs. In Proceedings of the 19th European Conference on Computer Systems (EuroSys).

Preprint(s)

- [1] **Bing-Jyue Chen**, Lilia Tang, and Daniel Kang. 2025. ZKTorch: Compiling ML Inference to Zero-Knowledge Proofs via Parallel Proof Accumulation. arXiv.
- [2] **Bing-Jyue Chen**, Lilia Tang, David Heath, and Daniel Kang. 2025. Linear-time and Logarithmically-sound Permutation and Multiset SNARKs. Cryptology ePrint Archive.

Teaching Experiences

Fall 2018 -

Spring

2021

Networking and Multimedia Lab (EE3002), Teaching Assistant for guiding undergraduates to design applications on blockchain platforms (e.g., Ethereum).

Taipei, Taiwan

Work Experiences

Institute for Information Industry**RESEARCH INTERN**

- Studied the next-generation blockchain techniques and designed blockchain applications.

Taipei, Taiwan
Jul. 2017 – Nov. 2017

Institute of Information Science, Academia Sinica**RESEARCH ASSISTANT**

- Proposed a social-aware deep graph neural network that recommends attractive and non-occluded avatars for metaverse users.

Taipei, Taiwan
Oct. 2021 – Jun. 2023

University of Illinois**RESEARCH ASSISTANT**

- Designed efficient zero knowledge machine learning framework(s).

Urbana, Illinois
Aug. 2023 – May. 2025

Visa Research**STAFF RESEARCH SCIENTIST**

- Designed practical zkSNARK protocols for Visa.

Foster City, California
May. 2025 – Aug. 2025

Awards, Fellowships, & Grants

2021	Student Grant , IEEE ICC Honorable Mention for Outstanding Master Thesis , The institution of engineering and technology (IET)	<i>USD 350</i>
2020	The High Distinct Thesis Award , Alumni of NTU Sunrise	<i>USD 1700</i>
2018	Excellent Thesis Award , Alumni of NTU Sunrise	<i>USD 1000</i>
2017	Excellent Thesis Award , Alumni of NTU Sunrise FarEastTone Bussiness Award , MakeNTU	<i>USD 1000</i> <i>USD 500</i>
2016	Silver Award , BIOMOD. Our website: https://biomod2016.gitlab.io/taiwan/ Honorable Mentioned Thesis Award , Alumni of NTU Sunrise	<i>USD 300</i>

Programming skills

- Machine learning: Python (PyTorch, PyG, sklearn, numpy, etc.)
- ZK and Blockchain: Rust, Golang, Solidity
- Others: Unity3D (C#), React (Javascript), C++, Verilog