Aoxuan (Douglas) Li

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Education

PhD in Computer Science
IMDEA Software Institute, Dec 2024 – Present

Master of Science in Computer Science
University of California, Los Angeles, Sep 2017 – Jun 2019
GPA: 3.81/4.0
Master Thesis: On Explicit Depth Robust Graphs

Bachelor of Science in Computing
Macao Polytechnic Institute, 2013 – 2017
Overall GPA: 3.56/4.0

Work Experiences

Cryptography Researcher at Nethermind
Aug 2023 – Nov 2023, Internship
• Reduced final argument proof size and verification complexity in STARK algorithm.

Cryptographer at Mystiko.Network
Aug 2021 – Dec 2024, Freelance
Nov 2020 – Aug 2021
• Designed the first auditable web3 zero-knowledge connectivity and privacy base layer.

Software Engineer at Stealth Software Technologies, Los Angeles
July 2019 – July 2020
• Developed front-end for cryptographic applications, designed a new Private Set Intersection
  algorithm, and implemented efficient cryptography software in Java.

Professional Experiences

Visiting Researcher at University of Bologna, Bologna
May 2024 – Aug 2024
• Blockchain research advised by Prof. Gabriele D'Angelo.

Researcher at Macao Polytechnic University, Macao
Aug 2021 – Aug 2024
• Focused on research topics related to blockchain, including distributed ledger technologies,
  smart contracts, and consensus mechanisms.

Research Assistant at UCLA, Los Angeles
Jan 2018 – June 2019
• Cryptography and theoretical computer science research advised by Prof. Rafail Ostrovsky.

Research Assistant in Cuneiform Digital Library Initiative at UCLA, Los Angeles
Jan 2018 – March 2019
- Managed a large-scale CentOS and MySQL server, optimized backup strategies for Docker-based virtualization, and developed a CakePHP-based storage and display framework to improve data accessibility.

Publications

- Aoxuan Li, Gabriele D'Angelo, Su-Kit Tang, Frank Fang, and Baron Gong. An auditable confidentiality protocol for blockchain transactions. *Blockchain: Research and Applications*, 2025

- AoXuan Li, Luca Serena, Mirko Zichichi, Su-Kit Tang, Gabriele D'Angelo, and Stefano Ferretti. Modelling of the internet computer protocol architecture: The next generation blockchain. In *International Congress on Blockchain and Applications*, pages 3–12. Springer International Publishing Cham, 2022

- AoXuan Li, Su-Kit Tang, and Gabriele D'Angelo. Implementation and preliminary evaluation of an auditable confidentiality mechanism for defi. In *2023 IEEE 43rd International Conference on Distributed Computing Systems Workshops (ICDCSW)*, pages 49–54. IEEE, 2023

- Luca Serena, AoXuan Li, Mirko Zichichi, Gabriele D'Angelo, Stefano Ferretti, and Su-Kit Tang. Simulation of the internet computer protocol: the next generation multi-blockchain architecture. In *2022 IEEE/ACM 26th International Symposium on Distributed Simulation and Real Time Applications (DS-RT)*, pages 119–126. IEEE, 2022

- Kaiyuan Tang, AoXuan Li, and Su-Kit Tang. Fully on-chain cloud storage dapp on the internet computer protocol. In *2023 IEEE 43rd International Conference on Distributed Computing Systems Workshops (ICDCSW)*, pages 43–48. IEEE, 2023

- Aoxuan Li. On explicit depth robust graphs. Master's thesis, University of California, Los Angeles, 2019

- Rita Tse, AoXuan Li, Zachary Chui, and Marcus Im. Detection and recognition of sign language protocol using motion sensing device. In *Future Technologies Conference (FTC) 2017*, 2017

Languages

- Mandarin Chinese (mother tongue)

- English (fluent in speaking and writing)

- Basic Cantonese

Technology Skills and Competences

Programming Languages: Python, Java, LaTeX

Skills: Cryptography, Information security

Teaching Activities

- Teaching Assistant of Security and Cryptography at Macao Polytechnic University

- Teaching Assistant of Optimization Methods at Macao Polytechnic University

Academic Services

- Subreviewer for Eurocrypt 2026, CHES 2026, INFOCOM 2023, Eurocrypt 2019