JIN XING LIM

Software Engineer @ Pi Squared Inc.

jinxing_1990@hotmail.com jinxinglim.github.io @0xJinXingLim jin-xing-lim-840814189 jinxinglim

EXPERIENCE

Software Engineer

Pi Squared Inc.

Aug 2024 - present

Currently developing **Omniset**, a universal liquidity layer enabling light-speed asset movements and seamless interoperability across diverse blockchain networks. Previously, I was the Tech Lead for key infrastructure projects at the company:

- **Verifiable Settlement Layer (VSL):** Headed the integration of VSL with AI clients and service providers, enabling fast payments and verifiable settlements between heterogeneous agents.
- **Math Proof Generation (MPG):** Led the team developing components that generate machine-checkable proofs of program executions to enhance blockchain interoperability via zero-knowledge (ZK) technology.

Formal Verification Engineer

Runtime Verification Inc.

Sept 2022 - Aug 2024

Team lead and main developer of ERCx, a comprehensive tool suite designed to verify conformance to ERC (Ethereum Request for Comments) standards and ensure the security of smart contracts in the Ethereum ecosystem. Utilized the Foundry testing framework to perform thorough analysis and validation. Contributed to the Kontrol project, an open-source tool for security analysis and formal verification of EVM smart contracts.

Lecturer

Temasek Polytechnic

July 2014 – Aug 2018

Subject leader and lecturer for the following courses: Mathematics for Applied Science - Statistics for Applied Science - Biostatistics - Scripting for Bioinformatics

EDUCATION

Ph.D. in Engineering Systems and Design

Singapore University of Technology and Design

Sept 2018 – Aug 2022

Advisors: Georgios Piliouras and Shaowei Lin
PhD Thesis: Incentivized Mechanism Design for Collaborative Proofs and Programs through Theorem Provers and Blockchain

B.Sc. in Mathematics
Second Class Honours (Upper/Distinction)

National University of Singapore

Aug 2010 – June 2014

Advisor: Yang Yue
Honours' Year Project: "Decidability of the First Order Theory of Boolean Algebra" by Tarski, A.

PROJECTS

OmniSet

OmniSet team @ Pi Squared

2025 Website

ERCx

ERCx team @ RV

2023 Website

Formalization of Divide-and-Conquer in Coq

Jin Xing Lim and Shaowei Lin

2021 Github

Game Theoretical Approaches in Multi-Agent Reinforcement Learning Policy Space Response Oracles

Jin Xing Lim and Sai Ganesh Nagarajan

2019 Github

Exploring Efficacy of Embeddings on Relation Network for Natural Language Question Answering Task

Jin Xing Lim, Zhangsheng Lai and Aik Beng Ng

2018 Github

PUBLICATIONS AND WRITINGS

Conference

- Lim, J. X. [Jin Xing], Monnot, B., & Piliouras, G. (2022). Blockchain-based mechanism design for collaborative mathematical research. In *IEEE International Conference on Blockchain and Cryptocurrency (ICBC 2022)*, Shanghai, China.
- Lim, J. X. [Jin Xing], Monnot, B., Lin, S., & Piliouras, G. (2021). A Blockchain-Based Approach for Collaborative Formalization of Mathematics and Programs. In *2021 IEEE International Conference on Blockchain (Blockchain-2021)*, Virtual, Australia.
- Lim, J. X. [Jin Xing], Monnot, B., Piliouras, G., & Lin, S. (2021). (Auto)Complete this Proof: Decentralized Proof Generation via Smart Contracts. In *Online proceedings of the 6th Conference on Artificial Intelligence and Theorem Proving (AITP 2021)* (pp. 74–76). Aussois, France.

Journal Articles

- Lim, J. X. [Jin Xing.], & Piliouras, G. (2021). Phd thesis: Incentivized mechanism design for collaborative proofs and programs through blockchain and theorem provers. Singapore University of Technology and Design.
- Lim, J. X. [Jin Xing], Li, B. T., & Ling, M. H. T. (2019). Sequence composition. In S. Ranganathan, M. Gribskov, K. Nakai, & C. Schönbach (Eds.), *Encyclopedia of bioinformatics and computational biology - volume 3* (pp. 323–326). Elsevier.
- Lim, J. X. [Jin Xing], & Ling, M. H. T. (2019). Gene ontology and kegg orthology mappings for 10 strains of pseudomonas stutzeri. In *Ec proteomics and bioinformatics - volume 3.1* (pp. 12–18). ECronicon.

Books

- Tan, H. M., Li, B., Lai, Z., Lim, J. X., & Chew, S. (2016). *Mathematics for applied science*. McGraw Hill Education.
- Tan, H. M., Li, B., Lai, Z., Lim, J. X., & Chew, S. (2015). *Statistics for applied science*. McGraw Hill Education.

Blog posts

- Preparing the Web3 Infrastructure for Billions of AI Agentic Payments. (2025). https://blog.pi2.network/preparing-the-web3-i
- The Stablecoin Surge is Coming. Can Blockchains Keep Up? (2025). https://blog.pi2.network/the-stablecoin-surge-is-coming-
- Is my ERC-4626 vault token up to the standard? (2023). https://runtimeverification.com/blog/is-my-erc-4626-vault-token-up

PROGRAMMING SKILLS

Python, Solidity, Foundry

Coq, K framework

AREAS OF INTEREST

Blockchain: Blockchain applications - Formal verification of blockchain - Smart contract security

Theorem Prover: Formalization and verification of mathematics, programs and protocols - Automated reasoning tools on proof assistants

Others: Mathematical logic - Type theory - Category theory - Program synthesis - Explainable AI

REFEREES

Dr. Shaowei Lin
@ Chief Scientist - Beneficial AI Foundation
shaoweilin.research@gmail.com

Dr. Georgios Piliouras
@ Senior Staff Research Scientist - Google DeepMind
georgios.piliouras@gmail.com

Prof. Yang Yue
@ Professor - Department of Mathematics, National University of Singapore
matyangy@nus.edu.sg