JIN XING LIM

Formal Verification Engineer @ Runtime Verification Inc.

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EXPERIENCE

Formal Verification Engineer
Runtime Verification Inc.

📅 Sept 2022 - present

Backend and frontend development of the K-Framework, the development of internal tools and/or products derived from or powered by the K-Framework, and working on customer engagements providing software testing and verification services to industry

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Data Science Intern
Entend.ai

📅 July 2019 – Sept 2019

Translated mathematical models for machine reasoning into software and to built applications based on the software

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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
Thesis: Incentivized Mechanism Design for Collaborative Proofs and Programs through Theorem Provers and Blockchain

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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.

PROJECT WORKS

Formalization of Divide-and-Conquer in Coq
Jin Xing Lim and Shaowei Lin

📅 2021   📍 Github

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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

👥 Conference

- Lim, J. X., 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., 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., 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., 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., & 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.

HONOURS & AWARDS

Global Young Scientist Summit 2020

Singapore University of Technology and Design Ph.D. Fellowship (2018 - 2022)

PROGRAMMING SKILLS

Python, Coq   🔴🔴⚪

R, Erlang, Julia, Solidity   🔴⚪⚪

COURSES ATTENDED

Secureum Bootcamp Epoch 0

Rajeev Gopalakrishna

📅 Dec 2021   📍 Secureum

Ethereum Blockchain Developer Bootcamp With Solidity (2021)

Ravinder Deol, Thomas Wiesner and Martin Sterlicchi

📅 Nov 2021   📍 Udemy

Structural Equation Modelling Workshop Using Stata

Chan Yiong Huak

R Bioconductor Training for Bioinformatics
Alfred Ang

📅 Dec 2016   📍 Tertiary Infotech Pte Ltd

Biostatistics for Research (Advanced) Workshop
Chan Yiong Huak

📅 Dec 2016   📍 Singapore General Hospital Postgraduate Allied Health Institute

Biostatistics for Research (Basic/Intermediate) Workshop
Chan Yiong Huak

📅 Oct 2016   📍 Singapore General Hospital Postgraduate Allied Health Institute

Data Analytics in Healthcare Course
K C Lun

📅 Nov 2014   📍 Gateway Consulting Singapore

AREAS OF INTEREST

Blockchain: Blockchain applications - Formal verification of blockchain

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

Assoc. Prof. Georgios Piliouras
@ Singapore University of Technology and Design
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Dr. Shaowei Lin
@ -
✉ shaoweilin.research@gmail.com

Prof. Yang Yue
@ National University of Singapore
✉ matyangy@nus.edu.sg