JIN XING LIM

Ph.D. Candidate

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EDUCATION

Ph.D. in Engineering Systems and Design
Singapore University of Technology and Design

📅 Sept 2018 – Aug 2022 (expected)

Advisors: Georgios Piliouras and Shaowei Lin
Thesis: A Blockchain-based Mechanism Design for Theorem Proving

B.Sc. in Mathematics
National University of Singapore

📅 Aug 2010 – June 2014

Class: Second Class Honours (Upper) / Honours (Distinction)
Advisor: Yang Yue
Honours' Year Project: "Decidability of the First Order Theory of Boolean Algebra" by Tarski, A.

EXPERIENCE

Data Science Intern
Entend.ai

📅 July 2019 – Sept 2019

Translate mathematical models for machine reasoning into software and to build applications based on the software

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

PROJECT WORKS

Formalization of Divide-and-Conquer in Coq
📅 2021   📍 Github

Game Theoretical Approaches in Multi-Agent Reinforcement Learning Policy Space Response Oracles
📅 2019   📍 Github

Exploring Efficacy of Embeddings on Relation Network for Natural Language Question Answering Task
📅 2018   📍 Github

PUBLICATIONS

👥 Conference

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

PROGRAMMING SKILLS

Python, Coq   ● ● ○

R, Erlang, Julia, Solidity   ● ○ ○

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
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Dr. Shaowei Lin
@ Awecom
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Prof. Yang Yue
@ National University of Singapore
✉ matyangy@nus.edu.sg