Zixin Zhong

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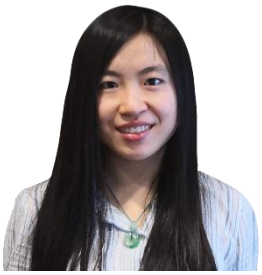

Research Interests

Reinforcement learning, online machine learning (e.g., bandit problem)

Work Experience

Jun. 2021 to present — Research fellow, Department of Electrical and Computer Engineering
National University of Singapore (NUS)
· Supervisors: Prof. Vincent Y. F. Tan and Prof. Wang Chi Cheung

Education

Aug. 2017 to Oct. 2021 — Ph.D. candidate, Department of Mathematics
National University of Singapore (NUS)
· Supervisors: Prof. Vincent Y. F. Tan (Main) and Prof. Wang Chi Cheung

Aug. 2013 to Jun. 2017 — B.S., School of Mathematics (Outstanding Graduate)
Sun Yat-sen University (SYSU), GPA: 4.1/5.0
· Thesis Advisor: Prof. Guocan Feng

Aug. 2015 to Dec. 2015 — International student
University of California, Berkeley (UCB)

Nov. 2014 to Jun. 2017 — Yat-sen School (Including top 5% from School of Mathematics)
Sun Yat-sen University (SYSU)

Preprints

- On the Pareto Frontier of Regret Minimization and Best Arm Identification in Stochastic Bandits
  Zixin Zhong, Wang Chi Cheung, and Vincent Y. F. Tan
  Submitted, October 2021

Journal Papers

- Thompson Sampling Algorithms for Cascading Bandits [Code]
  Zixin Zhong, Wang Chi Cheung, and Vincent Y. F. Tan
  Journal of Machine Learning Research (JMLR), Vol. 22, No. 218, Pages 1 - 66, September 2021

Conference Papers

- Probabilistic Sequential Shrinking: A Best Arm Identification Algorithm for Stochastic Bandits with Corruptions [Code]
  Zixin Zhong, Wang Chi Cheung, and Vincent Y. F. Tan
  International Conference on Machine Learning (ICML), Virtual, July 2021
- Best Arm Identification for Cascading Bandits in the Fixed Confidence Setting
  Zixin Zhong, Wang Chi Cheung, and Vincent Y. F. Tan
  International Conference on Machine Learning (ICML), Virtual, July 2020
- A Thompson Sampling Algorithm for Cascading Bandits (oral presentation)
  Wang Chi Cheung, Vincent Y. F. Tan, and **Zixin Zhong**
  International Conference on Artificial Intelligence and Statistics (AISTATS), Naha, Okinawa, Japan, April 2019

Thesis

- Performance Guarantees for Online Learning: Cascading Bandits and Adversarial Corruptions
  Zixin Zhong
  PhD. Thesis, Department of Mathematics, National University of Singapore, October 2021

Professional Activities

- Reviewer of International Conference on Artificial Intelligence and Statistics (AISTATS), 2022
- Reviewer of International Conference on Learning Representations (ICLR), 2022
- Reviewer of Neural Information Processing Systems (NeurIPS), 2021
- Reviewer of International Conference on Artificial Intelligence and Statistics (AISTATS), 2021
- Reviewer of IEEE Transactions on Information Theory

Academic Activities

- INFORMS 2021 Annual Meeting, Virtual, 24-27 October 2021
  Oral presentation of the work appeared at ICML 2021
- The 22nd Conference of the International Federation of Operational Research Societies (IFORS), Virtual, 23-27 August 2021
  Oral presentation of the work appeared at ICML 2021
- The 3rd TBSI Workshop on Learning Theory (WOLT), TBSI, 5-7 July 2021
  Oral and poster presentation of the work appeared at ICML 2021
- Analytics for X, iORA, NUS, 19-21 May 2021
  Oral presentation of the work appeared at ICML 2021

Volunteer Activities

- The 13th Asian Conference on Machine Learning (ACML), 8-19 November 2021

Internship

Nov. 2020 to Mar. 2021 — Data scientist

AiDA Thchnologies Pte Ltd, Singapore

· Reporting officers: Dr. Tan Geok Leng (CEO), Dr. Zha Wei

- **Insurance upsell/cross sell**. Developing a predictive analytics model for identifying candidates who have a propensity to buy insurance products from a bank's existing CASA customer base.
- **PIER71 Smart Port Challenge**. Developing a machine learning model to predict the Estimated Time of Arrival (ETA) for vessels plying between two known port pairs which achieves 1.34% percentage error. Analyzing the limitations of the model so developed.
- **Trading Floor Misconduct**. Developing a framework for text mining using Regular Expression to conduct experiments to lockdown parameters so that Risk Events may be detected with low False Alarm rates. The framework is now used as a **standard tool** in the company.

Honors & Rewards

Aug. 2017 to Jun. 2021	NUS Research Scholarship
2014	National Merit Scholarship, China
2014, 2015	First Class Scholarship, SYSU

Skills

Computer: Python, Matlab, Latex, R, C/C++

Language: English, Mandarin, Cantonese