

YANG CHEN

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EDUCATION

The University of Auckland

Auckland, New Zealand

Ph.D. Candidate, School of Computer Science

November 2018 – April 2022

- Supervisors: Jiamou Liu and Bakh Khoussainov
- Thesis: *From One to Infinity: New Algorithms for Reinforcement Learning and Inverse Reinforcement Learning*

The University of Auckland

Auckland, New Zealand

First Class Honours in Computer Science

July 2017 – July 2018

- Dissertation: *Network Building: Methodological Foundations and Algorithmic Analysis*

Beijing Institute of Technology

Beijing, China

Bsc in Computer Science & Technology

August 2013 – June 2017

WORK EXPERIENCE

The University of Auckland

Auckland, New Zealand

Research Fellow

June 2021 – Present

- I am currently affiliated with the University of Auckland as a research fellow.

Alibaba DAMO Academy

Beijing, China

Research Intern

September 2020 – January 2021

- I served as a principal contributor and programmer of a research project, where I proposed a novel framework that combines deep learning and bandit techniques to enhance the efficiency and accuracy of the recommender system.

RESEARCH INTERESTS

My main research interest lies in (deep) reinforcement learning in multi-agent systems. I aim to solve issues modelled as multi-agent systems from the learning and game-theoretical perspective. Along this line, my ultimate goal is to reinforce the insights into rules of applying reinforcement learning in conjunction with game theory. Very recently, my focus moves to reinforcement learning in games with tons of agents. I attempt to explore exciting results in such scenarios through combining reinforcement learning and the mean field theory.

SUPERVISION

Honours

- **Yiwei Qi.**

The University of Auckland.

February 2022 – November 2022

Topic: *Building A Game-Playing Agent Using Decision Theory*

TEACHING

- **COMPSCI 220: Algorithms and Data Structures**
Guest Lecturer, The University of Auckland. *Semester 1, 2022*
- **COMPSCI 399 Capstone: Computer Science**
Project Supervisor, The University of Auckland. *Semester 2, 2021*

ACADEMIC SERVICES

- **Conference Reviewer:** ICNLP 2022, BSCI 2022.
- **Journal Reviewer:** Social Network Analysis and Mining (SNAM).

AWARDS

- Google Global PhD Fellowship Nomination (Australilia & New Zealand) *August 2020*
- Best Paper Award, BSCI 2019. *July 2019*
- Summer Scholarship Funding from PDH Research Partnership. *November 2018*
- University of Auckland Doctoral Scholarship (approx. NZD \$85000). *October 2018*

SELECTED PUBLICATIONS

PREPRINTS

- **Adversarial Inverse Reinforcement Learning for Mean Field Games**
Yang Chen, Jiamou Liu, Bakhadyr Khoussainov. **arXiv 2021.**

CONFERENCES

- **Interconnected Neural Linear Contextual Bandits with UCB Exploration**
Yang Chen, Miao Xie, Jiamou Liu, Kaiqi Zhao. *26th Pacific-Asia Conference on Knowledge Discovery and Data Mining. PAKDD 2022.* (Core A, CCF C)
- **Individual-Level Inverse Reinforcement Learning for Mean Field Games**
Yang Chen, Libo Zhang, Jiamou Liu, Shuyue Hu. *The 21st International Conference on Autonomous Agents and Multi-agent Systems. AAMAS 2022.* (Core A*, CCF B)
- **Social Capital Games as A Framework for Social Structural Pattern Emergence**
Yang Chen, Jiamou Liu. *IEEE/ACM International Conference on Advances in Social Networks Analysis and Mining. ASONAM 2020.*
- **Social Structure Emergence: A Multi-agent Reinforcement Learning Framework for Relationship Building**
Yang Chen, Jiamou Liu, He Zhao, Hongyi Su. *The 19th International Conference on Autonomous Agents and Multi-agent Systems. AAMAS 2020.* (Core A*, CCF B)
- **Becoming Gatekeepers Together with Allies: Collaborative Brokerage over Social Networks**
Yang Chen, Jiamou Liu. *The 2019 IEEE/ACM International Conference on Advances in Social Networks Analysis and Mining. ASONAM 2019.*

- **A Reinforcement Learning Approach to Gaining Social Capital with Partial Observation**
He Zhao, Hongyi Su, **Yang Chen (contact)**, Jiamou Liu, Hong Zheng, Bo Yan. *The 16th Pacific Rim International Conference on Artificial Intelligence. PRICAI 2019.* (Core A, CCF C)
- **Dynamic Relationship Building: Exploitation Versus Exploration on a Social Network**
Bo Yan, **Yang Chen**, Jiamou Liu. *The 18th International Conference on Web Information Systems Engineering. WISE 2017.* (Core A, CCF C)

WORKSHOPS

- **Can Reinforcement Learning Enhance Social Capital?**
He Zhao, Hongyi Su, **Yang Chen**, Jiamou Liu, Bo Yan, Hong Zheng. *The International Workshop on Web Information Systems in the Era of AI.*
- **Distributed Community Detection over Blockchain Networks Based on Structural Entropy**
Yang Chen, Jiamou Liu. *The 2019 ACM International Symposium on Blockchain and Secure Critical Infrastructure. BSCI 2019. (Best Paper Award)*