

# 陈阳

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## 教育背景

### University of Auckland

博士, 计算机科学

奥克兰, 新西兰

2018.11 – 2022.09

- 导师: Jiamou Liu 和 Bakhadyr Khoussainov
- 论文: *From One to Infinity: New Algorithms for Reinforcement Learning and Inverse Reinforcement Learning*

### University of Auckland

一等荣誉学士, 计算机科学

奥克兰, 新西兰

2017.07 – 2018.07

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

### 北京理工大学

学士, 计算机科学与技术

北京, 中国

2013.08 – 2017.06

## 工作经历

### University of Auckland

博士后研究员

奥克兰, 新西兰

2022.04 – 至今

### 阿里巴巴达摩院

研究实习生

北京, 中国

2020.09 – 2021.07

## 研究兴趣

我的研究兴趣包括强化学习、多智能体系统和博弈论。最近, 我的目标是从强化学习和博弈论的角度解决多智能体系统的问题。沿此研究方向, 我的最终目标是加强对将强化学习与博弈论相结合的理论和应用的拓展。最近, 我的关注点是具有大量代理的博弈中的强化学习。除了对强化学习、博弈论和多智能体系统的研究兴趣外, 我还致力于将强化学习应用于自然语言处理和自动推理。

## 教学

- **COMPSCI 713: Artificial Intelligence Foundations**  
Lecturer, University of Auckland. Semester 1, 2024
- **COMPSCI 761: Advanced Topics in Artificial Intelligence**  
Lecturer, University of Auckland. Semester 2, 2023
- **COMPSCI 761: Advanced Topics in Artificial Intelligence**  
Lecturer, University of Auckland. Semester 2, 2022
- **COMPSCI 220: Algorithms and Data Structures**  
Guest Lecturer, University of Auckland. Semester 1, 2022

- **COMPSCI 399 Capstone: Computer Science**  
Project Supervisor, University of Auckland.

*Semester 2, 2021*

## 项目基金

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### Current Research

- **AI-based behavioural analytics for live sports broadcast** *2024 – 2026*  
*Associate Investigator*  
Principal Investigator: Patrice Delmas  
Funding Agency: Ministry of Business, Innovation & Employment (MBIE) Endeavour Fund  
Amount Awarded: 1 Million NZD

## 会议组织

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- Local co-chair of AAMAS 2024.
- Co-chair of AAMAS 2024 AAAI track.
- Webmaster of AAMAS 2022, BSCI 2020, 2021, 2022, 2023.

## 学术服务

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- 审稿人: AAMAS 2024, AAMAS 2023, ICNLP 2022, BSCI 2022, Journal of Social Network Analysis and Mining.

## 获奖

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- AAMAS 2022 会议奖学金 *2022.04*
- 谷歌全球博士奖研金提名 (澳大利亚和新西兰区) *2020.08*
- 最佳论文奖, BSCI 2019. *July 2019*
- PDH Research Partnership 暑期研究奖学金. *2018.11*
- 奥克兰大学博士奖学金. *2018.10*

## 发表著作

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- 强化学习, 多智能体系统和博弈论
- **Meta-Inverse Reinforcement Learning for Markov Games with Probabilistic Context Variables**  
**Yang Chen**, Xiao Lin, Bo Yan, Libo Zhang, Jiamou Liu, Neset Özkan Tan, Michael Witbrock.  
*Thirty-Eighth AAAI Conference on Artificial Intelligence. AAAI 2024.*
- **Adversarial Inverse Reinforcement Learning for Mean Field Games**  
**Yang Chen**, Libo Zhang, Zhenyun Deng, Neset Özkan Tan, Jiamou Liu, Michael Witbrock.  
*The 22nd International Conference on Autonomous Agents and Multi-agent Systems. AAMAS 2023.*

- **Density-based Correlated Equilibrium for Markov Games.**  
Libo Zhang, **Yang Chen** (co-first & contact author), Toru Takisaka, Bakh Khoussainov, Michael Witbrock, Jiamou Liu. *The 22nd International Conference on Autonomous Agents and Multi-agent Systems*. **AAMAS 2023**.
- **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**.
- **Interconnected Neural Linear Contextual Bandits with Upper Confidence Bound Exploration**  
**Yang Chen**, Miao Xie, Jiamou Liu, Kaiqi Zhao. *26th Pacific-Asia Conference on Knowledge Discovery and Data Mining*. **PAKDD 2022**.
- **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**.
- **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*. **2019**.
- **A Reinforcement Learning Approach to Gaining Social Capital with Partial Observation**  
He Zhao, Hongyi Su, **Yang Chen**, Jiamou Liu, Hong Zheng, Bo Yan. *The 16th Pacific Rim International Conference on Artificial Intelligence*. **PRICAI 2019**.
- **多智能体系统和图论**
- **Efficient size-prescribed  $k$ -core search**  
Yiping Liu, Bo Yan, Bo Zhao, Hongyi Su, **Yang Chen**, Michael Witbrock. *The 2023 IEEE/ACM International Conference on Advances in Social Networks Analysis and Mining*. **ASONAM 2023**.
- **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)**
- **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.*

- **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.*

- **深度学习和应用**

- **Behaviour Modelling of Social Animals via Causal Structure Discovery and Graph Neural Networks**

Gaël Gendron (co-first), **Yang Chen (co-first)**, Mitchell Rogers, Yiping Liu, Mihailo Azhar, Shahrokh Heidari, David Arturo Soriano Valdez, Kobe Knowles, Padriac O’Leary, Simon Eyre, Michael Witbrock, Gillian Dobbie, Jiamou Liu and Patrice Delmas. *The 23rd International Conference on Autonomous Agents and Multi-agent Systems. AAMAS 2024.*

- **Behaviour Modelling of Social Animals via Causal Structure Discovery and Graph Neural Networks**

Yonghua Zhu, Lei Feng, Zhenyun Deng, **Yang Chen**, Robert Amor, Michael Witbrock. *Thirty-Eighth AAAI Conference on Artificial Intelligence. AAAI 2024.*

- **Chain of Propagation Prompting for Node Classification**

Yonghua Zhu, Zhenyun Deng, **Yang Chen**, Robert Amor, Michael Witbrock. *ACM MultiMedia 2023 ACM MM 2023.*

- **MSDC: Non-intrusive Load Monitoring with a Dual-CNN Model**

Jialing He, Jiamou Liu, Zijian Zhang, **Yang Chen**, Yiwei Liu, Bakh Khoussainov, Liehuang Zhu. *Thirty-Seventh AAAI Conference on Artificial Intelligence. AAAI 2023.*

- **自然语言推理**

- **Contrastive Learning with Logic-driven Data Augmentation for Logical Reasoning over Text.**

Qiming Bao, Alex Yuxuan Peng, Zhenyun Deng, Wanjun Zhong, Neset Tan, Nathan Young, **Yang Chen**, Yonghua Zhu, Michael Witbrock, Jiamou Liu. *Symposium on Large Language Models IJCAI’23. LLM@IJCAI’23.*

- **Neuromodulation Gated Transformer.**

Kobe Knowles, Joshua Bensemann, Diana Benavides Prado, Vithya Yogarajan, Michael Witbrock, Gillian Dobbie, **Yang Chen**. *The Eleventh International Conference on Learning Representations. ICLR 2023 Tiny Papers.*

- **Multi2Claim: Generating Scientific Claims from Multi-Choice Questions for Scientific Fact-Checking.**

Neset Tan, Trung Nguyen, Josh Bensemann, Alex Peng, Qiming Bao, **Yang Chen**, Mark Gahagan, Michael Witbrock. *The 17th Conference of the European Chapter of the Association for*

*Computational Linguistics*. **EACL 2023**.

- **Prompt-based Conservation Learning for Multi-hop Question Answering.**

Zhenyun Deng, Yonghua Zhu, **Yang Chen**, Qianqian Qi, Michael Witbrock, Patricia Riddle. *The 29th International Conference on Computational Linguistics*. **COLING 2022**. (Core A)

- **Interpretable AMR-Based Question Decomposition for Multi-hop Question Answering.**

Zhenyun Deng, Yonghua Zhu, **Yang Chen**, Michael Witbrock, Patricia Riddle. *The 31st International Joint Conference on Artificial Intelligence*. **IJCAI 2022**. (Core A\*)

- **An explainability analysis of a sentiment prediction task using a transformer-based attention filter**

Neset Özkan Tan, Joshua Bensemann, Diana Benavides-Prado, **Yang Chen**, Mark Gahegan, Lia Lee, Alex Yuxuan Peng, Patricia Riddle, Michael Witbrock. *The Ninth Annual Conference on Advances in Cognitive Systems*. **ACS 2021**.

- **数据集**

- **Meerkat Behaviour Recognition Dataset.**

Mitchell Rogers, Gal Gendron, David Soriano Valdez, Mihailo Azhar, **Yang Chen**, Shahrokh Heidari, Caleb Perelini, Padriac O’leary, Kobe Knowles, Izak Tait, Simon Eyre, Michael Witbrock, Patrice Delmas. *3rd Workshop on CV4Animals: Computer Vision for Animal Behavior Tracking and Modeling (in conjunction with CVPR 2023)*.