

CONTACT Phone: +81-08063217094, +86-15651682506
INFORMATION E-mail: cai@ms.k.u-tokyo.ac.jp, jksrndivide@gmail.com

EDUCATION **The University of Tokyo**, Tokyo, Japan

Ph.D., Complexity Science and Engineering, Oct., 2021 – Sep., 2024 (Expected)

- Laboratory: Sugiyama-Yokoya-Ishida Lab, led by Professor Masashi Sugiyama
- Advisor: Professor Masashi Sugiyama
- Research Area: Reinforcement Learning and Imitation Learning from Weak Supervision

Nanjing University, Nanjing, China

M.S., Computer Science and Technology, Sep., 2018 – Jun., 2021

- Laboratory: LAMDA Lab, led by Professor Zhi-Hua Zhou
- Advisor: Co-supervised by Professor Zhi-Hua Zhou and Professor Yuan Jiang
- Research Area: Data Mining

Northwestern Polytechnical University, Xi'an, China

B.E., Aircraft Design and Engineering, Sep., 2014 – Jun., 2018

RESEARCH INTERESTS I am interested in various topics on machine learning and data mining. My research primarily focuses on reinforcement learning and imitation learning from weak supervision.

- PUBLICATIONS
(* DENOTES
EQUAL
CONTRIBUTIONS)
- [1] Pushi Zhang*, Baiting Zhu*, **Xin-Qiang Cai***, Li Zhao, Masashi Sugiyama, Jiang Bian. IG-Net: Image-Goal Network for Offline Visual Navigation on A Large-Scale Game Map. In: **Proceedings of the Thirty-seventh Conference on Neural Information Processing Systems (NeurIPS'23)**, 6th Robot Learning Workshop, New Orleans, US, 2023.
 - [2] **Xin-Qiang Cai**, Pushi Zhang, Li Zhao, Jiang Bian, Masashi Sugiyama, Ashley Juan Llorens. Distributional Pareto-Optimal Multi-Objective Reinforcement Learning. In: **Proceedings of the Thirty-seventh Conference on Neural Information Processing Systems (NeurIPS'23)**, New Orleans, US, 2023.
 - [3] **Xin-Qiang Cai**, Yu-Jie Zhang, Chao-Kai Chiang, Masashi Sugiyama. Imitation Learning from Vague Feedback. In: **Proceedings of the Thirty-seventh Conference on Neural Information Processing Systems (NeurIPS'23)**, New Orleans, US, 2023.
 - [4] **Xin-Qiang Cai**, Yao-Xiang Ding, Zi-Xuan Chen, Yuan Jiang, Masashi Sugiyama, and Zhi-Hua Zhou. Seeing Differently, Acting Similarly: Imitation Learning with Heterogeneous Observations. In: **Proceedings of the Eleventh International Conference on Learning Representations (ICLR'23, spotlight)**, Kigali, Rwanda, 2023.

- [5] Zi-Xuan Chen*, **Xin-Qiang Cai***, Yuan Jiang, and Zhi-Hua Zhou. Anomaly Guided Policy Learning from Imperfect Demonstrations. In: **Proceedings of the 21th International Conference on Autonomous Agents and Multi-Agent Systems (AAMAS'22, oral)**, Auckland, New Zealand, 2022.
- [6] **Xin-Qiang Cai**, Yao-Xiang Ding, Yuan Jiang, and Zhi-Hua Zhou. Imitation Learning from Pixel-Level Demonstrations by HashReward. In: **Proceedings of the 20th International Conference on Autonomous Agents and Multi-Agent Systems (AAMAS'21)**, online, 2021.
- [7] **Xin-Qiang Cai**, Peng Zhao, Kai Ming Ting, Xin Mu, Yuan Jiang. Nearest Neighbor Ensembles: An Effective Method for Difficult Problems in Streaming Classification with Emerging New Classes. In: **Proceedings of the 19th IEEE International Conference on Data Mining (ICDM'19)**, Beijing, China, 2019.

PREPRINTS

- [1] Kaiyan Zhao, Qiyu Wu, **Xin-Qiang Cai**, Yoshimasa Tsuruoka. Leveraging Multi-lingual Positive Instances in Contrastive Learning to Improve Sentence Embedding. [arXiv](#).

HONORS AND AWARDS

Contest Awards

- 2018 First Prize, ZhongAn Hackathon Contest, AI scenario
- 2017 Silver Medal, ACM/ICPC Asia Regional Contest, Qingdao Site
- 2017 Bronze Medal, ACM/ICPC Asia Regional Contest, Xinjiang Site
- 2016, 2017 First Prize, China Collegiate Programming Contest
- 2016, 2017 Honorable Mention, Interdisciplinary Contest In Modeling
- 2016 Bronze Medal, ACM/ICPC Asia Regional Contest, Dalian Site
- 2016 Bronze Medal, ACM/ICPC Asia Regional Contest, Shenyang Site
- 2016 Bronze Medal, ACM/ICPC EC-Final Contest, Shanghai Site
- 2015 Second Prize, China Undergraduate Mathematical Contest in Modeling

Honors and Fellowships

- 2023 Japan Society for the Promotion of Science (JSPS, 日本學術振興会) DC2 Fellowship
- 2022 MSRA Collaborative Research Program Fellowship (D-CORE 2022)
- 2021 SPRING GX Fellowship
- 2021 Excellent Graduate of Nanjing University
- 2020 Excellent Graduate Student of Nanjing University
- 2020 AAMAS 2021 Attendance Scholarship
- 2019 ICDM Student Travel Award
- 2018, 2019, 2020 First Prize, Nanjing University Academic Scholarship
- 2018 Second Prize, Nanjing University Yingcai Scholarship
- 2018 Excellent Graduate Student of Northwestern Polytechnical University
- 2017 First Prize, Wu Yajun Alumni Scholarship
- 2015, 2016 National Scholarship

SERVICES

Conference Research Services

- Reviewer for ICML 2022&2023, NeurIPS 2022&2023, ICLR 2023&2024, ECAI 2020, CIKM 2020, IJCAI 2021&2022&2023, CCML 2021

Journal Research Services

- Reviewer for IEEE Transactions on Neural Networks and Learning Systems (TNNLS)

Volunteer Work

- 2021 AAMAS (Proceedings of the 20th International Conference on Autonomous Agents and Multi-Agent Systems)
- 2018 & 2019 MLA (China Symposium on Machine Learning and Applications)

COMPUTER

Programming: Python, C/C++, MATLAB, Java, Shell, L^AT_EX

SKILLS

Operating systems: Ubuntu/Linux, Windows family

Languages: Chinese (Native), English (TOEFL-iBT 105/120)

HOBBIES

Fitness, Running