KAIXIANG LIN

Github & Google Scholar & Homepage
Email: linkaixi@msu.edu

EDUCATION

Michigan State University *Aug. 2015 - present*
Ph.D. student in Computer Science & Engineering
Advisor: Dr. Jiayu Zhou

University of Science and Technology of China *Sept. 2010 - July 2014*
B.E. in Electronic Information Engineering

RESEARCH INTERESTS

Reinforcement Learning, Data Mining, Machine Learning
My research focuses on developing sample-efficient reinforcement learning algorithms for large-scale real-world applications, including transportation, multi-channel marketing, and ads ranking.

PROFESSIONAL EXPERIENCE

Research Intern at **Google Display Ads, Mountain View, CA** *May 28th - Aug. 30th 2019*

- Applied learning to rank algorithms (including our ranking policy gradient) to display format selection problems. Seven models checked into production for three ranking tasks.
- Increased revenue by 1.14% based on five days online A/B testing.

Research Intern at **Didi AI Labs, Beijing** *May - Aug. 2017, 2018*

- Designed and implemented constrained multi-armed bandit algorithm for a multi-channel marketing project. Return on Investment (ROI) increased over 23% with the same scale of investment. This algorithm was running online at the end of my internship.
- Proposed and implemented a novel multi-agent deep reinforcement learning algorithm for large scale fleet management that is able to coordinate large number of agents and increase the GMV over 15% based on a simulator that is calibrated with real data.

SELECTED PUBLICATIONS

Kaixiang Lin and Jiayu Zhou. "Ranking Policy Gradient", ICLR, 2020.

Kaixiang Lin, Renyu Zhao, Zhe Xu, Jiayu Zhou. "Efficient Large-Scale Fleet Management via Multi-Agent Deep Reinforcement Learning", the 24th ACM SIGKDD International Conference on Knowledge Discovery and Data Mining (KDD), 2018. [**Research track Oral**][**Acceptance rate: 10.9%**]

- A journal resolving exponential action space for large-scale collaborative MARL is in submission.

Kaixiang Lin, Shu Wang, Jiayu Zhou. "Collaborative Deep Reinforcement Learning", Preprint, 2017.

Kaixiang Lin and Jiayu Zhou. "Interactive Multi-Task Relationship Learning", IEEE International Conference on Data Mining (ICDM), 2016.[**Oral**][**Acceptance rate: 8.5%**]

Kaixiang Lin, Jianpeng Xu, Inci M. Baytas, Shuiwang Ji and Jiayu Zhou. "Multi-Task Feature Interaction Learning", the 22nd ACM SIGKDD International Conference on Knowledge Discovery and Data Mining (KDD), 2016. [**Research track**][**Acceptance rate: 18.1%**]

HONORS AND AWARDS

Conference Travel Grant: SDM2016, KDD2016, SDM2017, SDM2018, KDD2018
Best Poster Award, Doctoral Forum, SDM2017

INVITED TALKS

- LinkedIn Tech Talk: "Ranking Policy Gradient: Towards Sample-efficient Reinforcement Learning", Aug 9th, 2019.

SERVICES

Program Committee (PC) member:

- ICML 2020, IJCAI 2020.
- IEEE BigData 2018, 2019.

Conference external reviewer:

- AAAI 2020, ICLR 2020.
- IJCAI 2019.
- ICDM 2017, 2018.

Journal Reviewer:

- IEEE Transactions on Neural Networks and Learning Systems
- Transactions on Knowledge and Data Engineering (TKDE)
- The Transportation Research Board (TRB) 98th Annual Meeting
- International Journal of Machine Learning and Cybernetics (JMLC)
- Neurocomputing
- Pattern Recognition
- Data Mining and Knowledge Discovery
- Transactions on Knowledge Discovery from Data (TKDD)