

Wanqi Xue

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EDUCATION

Nanyang Technological University (NTU) <i>Doctor of Philosophy - Computer Science</i> Supervisors: Prof. Bo An (Main); Prof. Chai Kiat Yeo.	Singapore Aug 2019 - Present
National University of Singapore (NUS) <i>Master of Science - Electrical Engineering</i>	Singapore 2017 - 2018
University of Electronic Science and Technology of China (UESTC) <i>Bachelor of Engineering - Electronic Science and Technology</i>	Chengdu, China 2012 - 2016

RESEARCH INTERESTS

My research focuses on reinforcement learning, multi-agent reinforcement learning, and their applications in security, games, recommendation and so on. Previously, I also worked on meta-learning and few-shot learning.

PUBLICATIONS

- Wanqi Xue**, Qingpeng Cai, Ruohan Zhan, Dong Zheng, Peng Jiang, Bo An. ResAct: Reinforcing long-term engagement in sequential recommendation with residual actor. Submitted to *NeurIPS* 2022.
- Wanqi Xue**, Wei Qiu, Bo An, Zinovi Rabinovich, Svetlana Obraztsova, Chai Kiat Yeo. Mis-spoke or mis-lead: Achieving robustness in multi-agent communicative reinforcement learning. *International Conference on Autonomous Agents and Multiagent Systems (AAMAS)*, 2022. **(Oral Presentation)**
- Wanqi Xue**, Bo An, Chai Kiat Yeo. NSGZero: Efficiently learning non-exploitable policy in large-scale network security games with neural monte carlo tree search. *AAAI Conference on Artificial Intelligence (AAAI)*, 2022. **(Oral Presentation)**
- Wanqi Xue**, Youzhi Zhang, Shuxin Li, Xinrun Wang, Bo An, Chai Kiat Yeo. Solving large-scale extensive-form network security games via neural fictitious self-play. *International Joint Conference on Artificial Intelligence (IJCAI)*, 2021.
- Shuxin Li, Youzhi Zhang, Xinrun Wang, **Wanqi Xue**, Bo An. CFR-MIX: Solving imperfect information extensive-form games with combinatorial action space. *International Joint Conference on Artificial Intelligence (IJCAI)*, 2021.
- Wanqi Xue**, Wei Wang. One-shot image classification by learning to restore prototypes. *AAAI Conference on Artificial Intelligence (AAAI)*, 2020.
- Yi Sen Ng, **Wanqi Xue**, Wei Wang, Panpan Qi. Convolutional neural networks for food image recognition: An experimental study. *International Workshop on Multimedia Assisted Dietary Management (ACMMM Workshop)*, 2019.

OPEN-SOURCE PROJECTS

- Apache-SINGA**: an Apache Top Level Project (2.5k stars in GitHub), focusing on distributed training of deep learning and machine learning models.
- **AutoGrad System**: I founded the whole Autograd system for Apache-SINGA, which is a key module for deep learning frameworks. The AutoGrad system is able to perform differentiation of a tensor (loss) automatically.
 - **Applications Based on the AutoGrad System**: I developed two real-life applications on top of the AutoGrad system, i.e., DL-based bone age predictor and lung nodule classifier.
 - **Apache Software Foundation (ASF) Committer**: I am a main contributor and ASF committer of Apache-SINGA.

EXPERIENCES

Kwai Inc. <i>Research Intern</i>	Remote Jul 2021 - Present
◦ Mentors : Dr. Dong Zheng; Dr. Qingpeng Cai. ◦ RL-based Recommender System : Optimizing long-term engagement for the Kuaishou App.	
National University of Singapore (NUS) <i>Dept. of Computer Science, Research Assistant</i>	Singapore 2018 - 2019
◦ Supervisor : Prof. Wei Wang. ◦ Research Areas : Distributed deep learning systems, meta-learning and few-shot learning.	

AWARDS

AAAI Student Scholarship	2022
AAMAS Attendance Scholarship	2021 - 2022
NTU Research Scholarship	2019 - 2023
UESTC Renmin Scholarship	2013 - 2015