Wanqi Xue

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Apache SVN ID: xuewanqi

EDUCATION

Nanyang Technological University (NTU) — Singapore
Doctor of Philosophy - Computer Science — *Aug 2019 - Present*
Supervisors: Prof. Bo An (Main); Prof. Chai Kiat Yeo.

National University of Singapore (NUS) — Singapore
Master of Science - Electrical Engineering — *2017 - 2018*

University of Electronic Science and Technology of China (UESTC) — Chengdu, China
Bachelor of Engineering - Electronic Science and Technology — *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 et al., ResAct: Reinforcing long-term engagement in sequential recommendation with residual actor. Submitted to *SIGKDD* 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. — Remote
Research Intern — *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) — Singapore
Dept. of Computer Science, Research Assistant — *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*
NTU Nanyang Scholarship	*2019 - 2023*
UESTC Renmin Scholarship	*2013 - 2015*