

Weizhe Chen

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Education

Shanghai Jiao Tong University

Shanghai, China

HONORS BACHELOR OF COMPUTER SCIENCE

Sep 2017 - PRESENT

- Member of ACM class in SJTU, which is an elite CS program for 5 % talented student.
- I have a broad interest in problems related to artificial intelligence, especially in machine learning, reinforcement learning, multi-agent reinforcement learning, applied machine learning, AI for social good, and computational sustainability.
- Overall GPA: 89.5/100

Publications

Bi-level Actor-Critic for Multi-agent Coordination (pdf)

AAAI 2020 Oral

- Haifeng Zhang, Weizhe Chen, Zeren Huang, Minne Li, Yaodong Yang, Weinan Zhang, and Jun Wang. Bi-level actor-critic for multi-agent coordination. In AAAI, volume 34, pages 7325–7332, 2020.

When to Follow the Tip: Security Games with Strategic Informants (pdf)

IJCAI-PRICAI 2020

- Weiran Shen, Weizhe Chen, Taoan Huang, Rohit Singh, and Fei Fang. Whento follow the tip: Security games with strategic informants. In Christian Bessiere, editor, Proceedings of the Twenty-Ninth International Joint Conference on Artificial Intelligence, IJCAI-20, pages 371–377. International Joint Conferences on Artificial Intelligence Organization, 7 2020. Main track.

Research Experience

AISOC LAB, CARNEGIE MELLON UNIVERSITY

Remote research assistant to Prof.Fei Fang.

Learning to Combat Poaching: Lessons Learned from Field Deployment

- Give a prediction of find poaching activity in heatmap form and give a possible route planning result method with only satellite image , elevation data, and historical patrol data as input.
- Showed that neural networks are applicable in anti-poaching area.
- Showed all popular methods can perform better after carefully tuning the hyperparameters.
- Did some study to help building human-AI trust, including explain our models and use our models to give back some domain knowledge to the experts.
- Proposed a novel mixed-integer linear programming-based approach to optimize multimodal patrol routes for a mix of driving and foot patrols.
- Did some trial on transfer learning and multi-task learning.
- Paper submitted to IAAI-2021.

Reinforcement learning with Bayesian Game

- Extended the previous algorithm from repeated security game to stochastic Bayesian game. Including a small change to the previous algorithm and fully re-wrote the code library.
- Generalized our algorithm to a framework that can potential combine other reinforcement learning algorithms.
- Used experiments to show the effectiveness of finding PBNE in stochastic Bayesian Games.
- Paper submitted to AAMAS-2021.

When to Follow the Tip: Security Games with Strategic Informants

- Wrote the code and conducted all the experiments.
- Paper accepted by IJCAI-PRICAI 2020.

APEX LAB, SHANGHAI JIAO TONG UNIVERSITY

Supervised by Prof.Yong Yu and Prof.Weinan Zhang.

Bi-level Actor-Critic for Multi-agent Coordination

HAIFENG ZHANG, **WEIZHE CHEN**, ZEREN HUANG, MINNE LI, YAODONG YANG, WEINAN ZHANG, JUN WANG

- Proposed to consider Stackelberg equilibrium as a potential better convergence result than Nash equilibrium which add asymmetric to multi-agent studies.
- Defined the Bi-RL problem and proposed an algorithm called Bi-AC to solve the Bi-RL problem.
- Did a converge analysis of our Bi-AC algorithm that showed our algorithm can converge in very specific time.
- Experiment conducted in matrix game and a modified version of highway-env to show that the algorithm will result in a Stackelberg equilibrium which can be a potential better result for all agents comparing to a Nash equilibrium without any selection.
- Paper accepted by AAAI 2020 as oral presentation paper.

Talks

Bi-level Actor-Critic for Multi-agent Coordination

DAI-2020

ORIGINALLY PUBLISHED ON AAAI-2020

Oct. 2020

- Presented as accepted papers from sister conferences.

Honors and Awards

Rong Chang Innovation Scholarship

A REWARD FOR TOP 0.5% STUDENT IN SJTU

2019

Team Member of Programming Contest Team Quasar

- Silver medal, 15th place in 'The 2018 CCPC final'.
- Gold medal, 2nd place in 'The 2018 ICPC Asia Nakhon Pathom Regional Contest'.
- Gold medal, 12th place in '2018 ICPC China Qingdao Provincial Programming Contest'.
- Gold medal, 4th place in '2018 CCPC Guilin Provincial Programming Contest'.

Team Member of Programming Contest Team Blazar

- Gold medal, 6th place in '2017 CCPC QinHuangDao Regional Contest'.
- Silver medal, 5th place in '2017 ACM-ICPC Asia-Manila Regional Contest'.

Zhiyaun Honors Scholarship

A REWARD FOR TOP 5% STUDENT IN SJTU

2017, 2018, 2019

Teaching Experience

College Programming Contest Team of Shanghai Jiao Tong University

STUDENT CO-COACH

Spring, Fall 2019

Machine Learning course (CS420) in Shanghai Jiao Tong University

TEACHING ASSISTANT

Spring 2020

Skills

ML framework Proficient in Tensorflow, Pytorch, Keras

English ability TOEFL-iBT:108 (Reading:30, Listening:28,Speaking:23,Writing:27)