Yifan Wu

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Machine Learning Department
Carnegie Mellon University
Pittsburgh, PA

Research Interest

I am interested in fundamental problems in pushing machine learning into practical use. I am currently working on: Prediction under distribution shift. Reinforcement Learning and decision making. Understanding deep learning.

Education

Ph.D. in Machine Learning, Carnegie Mellon University
08/2016 - present. Advisor: Zachary Lipton.

M.Sc. in Computing Science, University of Alberta, Canada
09/2013 - 07/2016. Advisors: Csaba Szepesvári and András György.

B.Sc. in Computer Science and Technology, Shanghai Jiao Tong University, China
09/2009 - 07/2013.

Work Experience

Research Intern, Google Brain, Mountain View. 05/2020 to 08/2020.

Research Intern, Google Brain, Mountain View. 05/2019 to 08/2019.

Research Intern, Google Brain, Mountain View. 05/2018 to 08/2018.

Research Intern, Google DeepMind, London. 08/2017 to 11/2017.

Research Papers

Saurabh Garg, Yifan Wu, Sivaraman Balakrishnan, Zachary Lipton. **A Unified View of Label Shift Estimation.** *The 34th Annual Conference on Neural Information Processing Systems (NeurIPS 2020).*

Yifan Wu, Goerge Tucker, Ofir Nachum. **Behavior-Regularized Offline Reinforcement Learning.** *NeurIPS 2019 Deep Reinforcement Learning Workshop.*

Chenjun Xiao*, Yifan Wu*, Chen Ma, Dale Schuurmans, Martin Müller. **Learning to Combat Compounding-Error in Model-Based Reinforcement Learning.** *NeurIPS 2019 Deep Reinforcement Learning Workshop.* (*equal contribution)

Fan Yang, Leqi Liu, Yifan Wu, Zachary Lipton, Pradeep Ravikumar, Tom Mitchell, William Cohen. **Game Design for Eliciting Distinguishable Behavior.** *The 33th Annual Conference on Neural Information Processing Systems (NeurIPS 2019).*

Yifan Wu, Ezra Winston, Divyansh Kaushik, Zachary Lipton. **Domain Adaptation with Asymmetrically-Relaxed Distribution Alignment.** *The 36nd International Conference on Machine Learning (ICML 2019).*

Yifan Wu, George Tucker, Ofir Nachum. **The Laplacian in RL: Learning Representations with Efficient Approximations.** *The 7th International Conference on Learning Representations (ICLR 2019).*

Yifan Wu, Barnabás Póczos, Aarti Singh. **Towards Understanding the Generalization Bias of Two Layer Convolutional Linear Classifiers with Gradient Descent.** *The*

22nd International Conference on Artificial Intelligence and Statistics (AISTATS 2019).

Yifan Wu, Tianshu Ren, Lidan Mu. **Importance Reweighting Using Adversarial-Collaborative Training.** *NIPS 2016 Workshop on Adversarial Training.*

Yifan Wu, Roshan Shariff, Tor Lattimore and Csaba Szepesvári. **Conservative Bandits.** *The 33nd International Conference on Machine Learning (ICML 2016).*

Yifan Wu, András György and Csaba Szepesvári. **Online learning with Gaussian payoffs and side observations.** *The 29th Annual Conference on Neural Information Processing Systems (NIPS 2015).*

Yifan Wu, András György and Csaba Szepesvári. **On identifying good options under combinatorially structured feedback in finite noisy environments.** *The 32nd International Conference on Machine Learning (ICML 2015).*

Bin Yao, Xiaokui Xiao, Feifei Li, and Yifan Wu. **Dynamic monitoring of optimal locations in road network databases.** *The VLDB Journal – The International Journal on Very Large Data Bases 23, no. 5 (2014): 697-720.*

Activities

- Reviewer for NIPS 2015, ICML 2016, AISTATS 2016, ICML 2017, NIPS 2017, AAAI 2018, NeurIPS 2019, NeurIPS 2020, JMLR. Sub-reviewer for COLT 2016, ALT 2017.
- Student volunteer, ALT 2015, ICML 2015.

Awards

- Outstanding M.Sc. Thesis Award, University of Alberta.
- Best Master's Thesis Award of the Canadian Artificial Intelligence Association.
- Jeffrey R Sampson Memorial Graduate Prize (top 1), University of Alberta.
- Academic Excellence Scholarship, Shanghai Jiao Tong University, 2010, 2011, 2012.

Graduate Courses

Carnegie Mellon University: Topics in Deep Learning, Advanced Introduction to Machine Learning, Intermediate Statistics, Deep Reinforcement Learning and Control, Statistical Machine Learning, Advanced Probability Theory

University of Alberta: Online Learning, Representation Learning, Probabilistic Graphical Models.

Teaching Experience

Teaching Assistant, Carnegie Mellon Univeristy

- 10707, Topics in Deep Learning, Spring 2019.
- 10805/10605, Scalable Machine Learning, Fall 2018.

Teaching Assistant, University of Alberta

- CMPUT 340, Introduction to Numerical Methods, Fall 2014.
- CMPUT 175, Introduction to the Foundations of Computation II, Winter 2014, Winter 2015.
- CMPUT 101, Introduction to Computing, Fall 2013.

Programming Skills

Python, C++; Tensorflow, Pytorch.