

Yi Wu

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EMPLOYMENT

Assistant Professor, Institute of Interdisciplinary Information Sciences (IIIS), Tsinghua University, Beijing, China 09/2020 – present

- Research interests include: Deep Reinforcement Learning, Natural Language Understanding, Probabilistic Programming

Visiting Researcher, OpenAI Inc., San Francisco, USA 03/2019 – 07/2019

EDUCATION

Ph.D. in Artificial Intelligence (AI), University of California, Berkeley, USA 08/2014 – 09/2019

- Advised by Prof. Stuart Russell

B.E. in Computer Science, Special CS Pilot Class, Institute of Interdisciplinary Information Sciences (IIIS), Tsinghua University, Beijing, China 08/2010 – 07/2014

PUBLICATIONS

1. Ruihan Yang, Huazhe Xu, **Yi Wu**, Xiaolong Wang, Multi-Task Reinforcement Learning with Soft Modularization, *Advances in Neural Information Processing Systems (NeurIPS) 2020*
2. Shusheng Xu, Xingxing Zhang, **Yi Wu**, Furu Wei, Ming Zhou, Unsupervised Extractive Summarization by Pre-training Hierarchical Transformers, *Conference on Empirical Methods in Natural Language Processing (EMNLP), Findings of EMNLP 2020*
3. Bowen Baker*, Ingmar Kanitscheider*, Todor Markov*, **Yi Wu***, Glenn Powell*, Bob McGrew*, Igor Mordatch*, Emergent Tool Use From Multi-Agent Autocurricula, *International Conference on Learning Representations (ICLR) 2020* (* team project), (**spotlight**)
4. Tonghan Wang*, Jianhao Wang*, **Yi Wu**, Chongjie Zhang, Influence-Based Multi-Agent Exploration, *International Conference on Learning Representations (ICLR) 2020*, (**spotlight**)
5. Qian Long*, Zihan Zhou*, Abhinav Gupta, Fei Fang, **Yi Wu†**, Xiaolong Wang†, Evolutionary Population Curriculum for Scaling Multi-Agent Reinforcement Learning, *International Conference on Learning Representations (ICLR) 2020* († equal advising)
6. **Yi Wu**, Yuxin Wu, Aviv Tamar, Stuart Russell, Georgia Gkioxari, Yuandong Tian, Bayesian Relational Memory for Semantic Visual Navigation, *IEEE/CVF International Conference on Computer Vision (ICCV) 2019*
7. Shihui Li, **Yi Wu**, Xinyue Cui, Honghua Dong, Fei Fang, Stuart Russell, Robust Multi-Agent Reinforcement Learning via Minimax Deep Deterministic Policy Gradient, *Thirty-Third AAAI Conference on Artificial Intelligence (AAAI) 2019*, (**Oral**)
8. Yufei Wang, Zheyuan Ryan Shi, Lantao Yu, **Yi Wu**, Rohit Singh, Lucas Joppa, Fei Fang, Deep Reinforcement Learning for Green Security Games with Real-Time Information, *Thirty-Third AAAI Conference on Artificial Intelligence (AAAI) 2019*, (**Oral**)
9. Tongzhou Wang, **Yi Wu**, David Moore, Stuart Russell, Meta-Learning MCMC Proposals, *Advances*

in *Neural Information Processing Systems (NIPS) 2018*

10. **Yi Wu**, Siddharth Srivastava, Nicholas Hay, Simon Du, Stuart Russell, Discrete-Continuous Mixtures in Probabilistic Programming: Generalized Semantics and Inference Algorithms, *International Conference on Machine Learning (ICML) 2018*
11. Ryan Lowe*, **Yi Wu***, Aviv Tamar, Jean Harb, Pieter Abbeel, Igor Mordatch, Multi-Agent Actor-Critic for Mixed Cooperative-Competitive Environments, *Advances in Neural Information Processing Systems (NIPS) 2017* (* equal contribution)
12. **Yi Wu**, David Bamman, Stuart Russell, Adversarial Training for Relation Extraction, *Conference on Empirical Methods in Natural Language Processing (EMNLP) 2017*
13. Yusuf B. Erol*, **Yi Wu***, Lei Li, Stuart Russell, A Nearly-Black-Box Online Algorithm for Joint Parameter and State Estimation in Temporal Models, *Thirty-First AAAI Conference on Artificial Intelligence (AAAI) 2017* (* equal contribution), **(Oral)**
14. Aviv Tamar, **Yi Wu**, Garrett Thomas, Sergey Levine, Pieter Abbeel, Value Iteration Network, *Advances in Neural Information Processing Systems (NIPS) 2016*, **(Best Paper Award)**
15. **Yi Wu**, Lei Li, Stuart Russell, Rastislav Bodik, Swift: Compiled Inference for Probabilistic Programming Languages, *International Joint Conference on Artificial Intelligence (IJCAI) 2016*
16. **Yi Wu**, David Wipf, Jeong-Min Yun, Understanding and Evaluating Sparse Linear Discriminant Analysis, *International Conference on Artificial Intelligence and Statistics (AISTATS) 2015*, **(Oral)**
17. David Wipf, **Yi Wu**, Dual Space Analysis on the Sparse Linear Model, *Advances in Neural Information Processing Systems (NIPS) 2012*

SELECTED WORKSHOP PAPERS

1. Zihan Zhou, Zheyuan Ryan Shi, **Yi Wu**, Fei Fang. Approximated Temporal-Induced Neural Self-Play for Finitely Repeated Bayesian Games. *Thirty-Fourth AAAI Conference on Artificial Intelligence (AAAI) 2020, Reinforcement Learning in Games Workshop* **(Oral)**
2. **Yi Wu**, Yuxin Wu, Aviv Tamar, Stuart Russell, Georgia Gkioxari, Yuandong Tian, Learning and Planning with a Semantic Model, *European Conference on Computer Vision (ECCV) 2018, Workshop on Visual Learning and Embodied Agents in Simulation Environments*
3. **Yi Wu**, Yuxin Wu, Georgia Gkioxari, Yuandong Tian, Building Generalizable Agents with a Realistic and Rich 3D Environment, *International Conference on Learning Representations (ICLR) 2018, Workshop Track; Advances in Neural Information Processing Systems (NIPS) 2017, Deep RL Symposium*
4. Brian Milch, **Yi Wu**, Lei Li, Stuart Russell, BLOG: a probabilistic programming language for open-universe contingent Bayesian networks, *International Conference on Machine Learning (ICML) 2015, 5th Workshop on Machine Learning Open Source Software* **(Oral)**
5. **Yi Wu**, Lei Li, Stuart Russell, BFiT: From Possible-World Semantics to Random-Evaluation Semantics in Open Universe, *Advances in Neural Processing Systems (NIPS) 2014, 3rd Workshop on Probabilistic Programming* **(Spotlight)**

AWARDS AND HONORS

Academic Awards

- NIPS 2016, Best Paper Award

12/2016

Algorithm and Programming

- North America Champion, Silver Medal (ranked 6th in the world) in **ACM/ICPC World Finals 2015**, Marrakech, Morocco 05/2015
- Bronze Medal (ranked 12th in the world) in **ACM/ICPC World Finals 2013**, Saint Petersburg, Russia 06/2013
- Two Champions and Four Second Places in ACM/ICPC Regional Contests 2010 – 2014
- Silver Medal (ranked 6th) in 22nd **International Olympiad in Informatics (IOI2010)**, Waterloo, Canada 08/2010

Scholarship

- Baidu Scholarship 2016
– Awarded to 10 PhD students all over the world
- Department Fellowship, EECS, UC Berkeley 2014
- Excellent Graduate Student in Tsinghua University 2014
– Awarded to top 10% of all the undergraduate students in Tsinghua
- Principal Scholarship in Institute of Interdisciplinary Information Sciences 2011, 2013
– Awarded to only 3 students in 2011 and only 6 students in 2013
- Tsinghua University Principal Scholarship for Freshman 2010
– Awarded to only 53 of 3300 freshmen in the whole Tsinghua University

PROFESSIONAL EXPERIENCES

- Engineer Intern, Recommendation Team, Bytedance Inc., Beijing, China** 05/2018 – 08/2018
 - Mentored by Mu Qiao (team manager)
- Research Intern, Facebook AI Research (FAIR), Menlo Park, CA, USA** 05/2017 – 05/2018
 - Mentored by Yuandong Tian and Georgia Gkioxari
- Research Intern, Toutiao AI Lab, Bytedance Inc., Beijing, China** 05/2016 – 08/2016
 - Mentored by Lei Li (AI Lab director)
- Research Intern, Visual Computing Group, Microsoft Research Asia (MSRA), Beijing, China** 10/2012 – 07/2013
11/2011 – 06/2012
 - Mentored by David Wipf (lead researcher)
- Software Engineering Intern, Search Team, Facebook Inc. Headquarters, Menlo Park, CA, USA** 06/2012 – 09/2012
 - Mentored by Gintaras Woss