JIAXUAN WANG

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EDUCATION

Ph.D. at the University of Michigan, Ann Arbor Sep 2017-April 2022
Computer Science and Engineering
Advisor: Jenna Wiens
GPA: 4.00 / 4.00
Research interests: Model interpretability; Alignment; Time-series analysis; Transfer/multitask learning; Non convex optimization; Temporal conditional shift; Computer vision; Deep reinforcement learning; Causal inference; Basketball analytics
Computational skills: PyTorch; Python; C++; Javascript; Matlab; R;

Bachelors of Science in Engineering, Ann Arbor Sep. 2013 - Dec. 2016
Computer Science major and Mathematics minor
GPA: 3.96 / 4.00
Directed research: Computer vision; Basketball analytics

EMPLOYMENT

Senior AI research scientist, GE Healthcare April 8 2024 - Present
Developing AI algorithms to improve perinatal health outcome.

Research scientist in machine learning, Meta Jun. 6 2022 - April 1 2024
- With teammates, developed a reinforcement learning agent to protect user data by selecting appropriate actions on scrappers (e.g., blocking, reCAPTCHA or SMS challenges). This is the first known RL system applied to the user abuse problem, significantly outperforming the traditional classify then enforce paradigm in reducing data scraped without degrading user experience [paper in submission].
- Proposed and implemented a feature attribution framework to debug and monitor distribution shift for the reinforcement learning agent used in production.
- With teammates, developed the duo-llama system that utilized a fine-tuned large language model (LLM) to save human labeling cost while enhancing LLM's ability on low resource languages through machine translation. The resulting system significantly outperforms the production classifier on 4 already supported languages, while enabling the new classifier to handle 17 languages.

Research Intern, Adaptive Systems and Interaction Group, Microsoft Research Jun. 1 - Aug.21 2020
Mentor: Scott Lundberg
Proposed a novel explanation method, Shapley Flow, that unifies and avoids the pitfall of 3 previous methods.

Software Engineering Intern, NLP group, Bloomberg L.P. (New York) Jun. 7 - Aug.19 2016
Mentors: Konstantine Arkoudas and Srivas Prasad
Algorithms for natural language parsing in financial chart domain: C++; SVM; PCFG

Research Assistant, Computer vision lab, University of Michigan Oct. 2014 - Jan. 2016
Advisor: Jia Deng
Focus: Human action dataset collection; Amazon Mechanical Turk; Feature extraction; Rotation equivariant network

PUBLICATIONS (* denotes equal contribution)

1. Learning Concept Credible Models for Mitigating Shortcuts
Jiaxuan Wang, Sarah Jabbour, Maggie Makar, Jenna Wiens
Proceedings of the 36th Conference on Neural Information Processing Systems (NeurIPS), 2022

2. Shapley Flow: A Graph-based Approach to Interpreting Model Predictions
Jiaxuan Wang, Jenna Wiens, Scott Lundberg
Proceedings of the 24th International Conference on Artificial Intelligence and Statistics (AISTATS), 2021

3. AdaSGD: Bridging the gap between SGD and Adam
Jiaxuan Wang, Jenna Wiens
arXiv preprint, 2020

4. Relaxed Parameter Sharing: Effectively Modeling Time-Varying Relationships in Clinical Time-Series
Jeeheh Oh*, **Jiaxuan Wang***, Shengpu Tang, Michael Sjoding, Jenna Wiens
In Proceedings of the 4th Machine Learning for Healthcare Conference, 2019

5. Learning Credible Models
Jiaxuan Wang, Jeeheh Oh, Haozhu Wang, Jenna Wiens
ACM SIGKDD Conference on Knowledge Discovery and Data Mining, 2018

6. The Advantage of Doubling: A Deep Reinforcement Learning Approach to Studying the Double Team
Jiaxuan Wang*, Ian Fox*, Jonathan Skaza, Nick Linck, Satinder Singh, Jenna Wiens
MIT Sloan Sports Analytics Conference, 2018

7. Learning to Exploit Invariances in Clinical Time-Series Data using Sequence Transformer Networks
Jeeheh Oh, **Jiaxuan Wang**, and Jenna Wiens
In Proceedings of the 4th Machine Learning for Healthcare Conference, 2018

8. HICO: A Benchmark for Recognizing Human-Object Interactions in Images
Yu-Wei Chao, Zhan Wang, Yugeng He, **Jiaxuan Wang**, Jia Deng
International Conference on Computer Vision (ICCV) 2015

TECHNICAL REPORTS

1. Using feature attribution to debug and monitor distribution shift for a production ML system
Jiaxuan Wang
2023

SERVICES

Reviewer @ MLHC 2023
Reviewer @ NeuRIPS 2022
Reviewer @ AISTATS 2022
Reviewer @ ICLR 2022
Reviewer @ AISTATS 2021
Reviewer @ NeuRIPS 2020
Reviewer @ NeuRIPS 2019
Reviewer @ MLHC 2021

Reviewer @ MLHC 2020
Volunteer @ Michigan AI symposium 2020
Reviewer @ SSAC 2020
Reviewer @ MLHC 2019
Reviewer @ SSAC 2019
Volunteer @ Michigan AI symposium 2019