Jiuqi Wang

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EDUCATION

| University of Virginia | Aug. 2023 - May. 2028 |
|--|---------------------------|
| Ph.D. Computer Science | Charlottesville, Virginia |
| Advisor: Shangtong Zhang | |
| University of Alberta | Sep. 2021 - Jun. 2023 |
| MSc. Computing Science (Thesis) | Edmonton, Alberta |
| Co-Supervisors: Martin Müller and Jonathan Schaeffer | |
| McGill University | Sep. 2017 - Jun. 2021 |

BSc. Honours Computer Science Montréal, Québec Distinction, First-Class Honours

Research Interests

Reinforcement Learning, In-Context Learning, Continual Learning

Research Experience

Graduate Research Assistant

Advised by Prof. Shangtong Zhang

Aug. 2023 - present Charlottesville, Virginia

- Develop theories and applications of reinforcement learning for solving sequential decision-making problems.
- Recent works include almost sure convergence of policy evaluation algorithms and in-context reinforcement learning theories. Please see Publications for more detail.

Master's Thesis May 2022 - June 2023 Edmonton, Alberta

Co-Supervised by Prof. Martin Müller and Jonathan Schaeffer

- Title: Deep Dive on Checkers Endgame Data
- Investigated if end-to-end training of the neural networks on game-theoretic outcomes of the board positions in the game of checkers(draughts) can achieve knowledge compression and transfer.
- Designed and implemented the models and experiment pipeline using JAX.
- Accepted to IEEE Conference on Games (CoG), 2023 as a full paper.

Undergraduate Research

May 2020 - Sep. 2020 Montréal, Québec

Supervised by Prof. Hsiu-chin Lin

- Topic: Sim-to-Real Transfer Learning of Time-Invariant Linear Parameter-Varying Dynamical Systems from Gaussian Mixture Models
- Reviewed relevant literature on dynamical systems and transfer learning.
- Implemented the learning algorithm in NumPy.
- Conducted experiments on benchmark datasets.
- Developed and studied an adaptive re-training procedure that increases the algorithm's robustness under noisy data.

TEACHING EXPERIENCE

Teaching Assistant

Reinforcement Learning

Sep. 2024 - Dec. 2024

Charlottesville, Virginia

- Hosted office hours to provide academic support and facilitate student learning.
- Graded homeworks.

Teaching Assistant

Search, Knowledge and Simulations

Jan. 2022 - Apr. 2022 Edmonton, Alberta

- Prepared the starter code of the assignments for the students and the scripts for grading the assignments.
- Monitored and graded the final project, where each student group developed a game-playing agent and competed with each other in a tournament.

Teaching Assistant

Intro to the Foundations of Computation I

Sep. 2021 - Dec. 2021

Edmonton, Alberta

- Held labs with other TAs to review and complement the materials covered in lectures.
- Graded student assignments.

Teaching Assistant

Intro to Computer Science

Jan. 2020 - May 2020 Montréal, Québec

- Prepared original weekly quiz questions for the course.
- Held office hours to answer questions from students.

Professional Experience

AI-SCORE 2024

University of Maryland

May 2024 - Jun. 2024

College Park, Maryland

- One of the 30 selected Ph.D. students to participate in the inaugural AI-SCORE summer school where students and scholars from the artificial intelligence and operations research communities join to discuss interdisciplinary research.
- Attended lectures and panel discussions and exchanged ideas with fellow students from both disciplines.

Development Intern

PTC Inc.

May 2021 - Jul. 2021 Suzhou, China

- Worked on product internationalization using the i18next framework that translates the originally hard-coded English webpages to the selected language.
- Toubleshooted several front-end issues.

Volunteering Experience

High School Mentor

Charlottesville High School

Sep. 2024 - Dec. 2024

Charlottesville, Virginia

- Matched with one of the teams in the engineering class of CHS.
- Advised the team with their semester-long final engineering project.
- Held weekly meetings with the team to keep track of the progress and assisted troubleshooting.

PUBLICATIONS

- * indicates equal contribution; † indicates advisor
 - 1. Experience Replay Addresses Loss of Plasticity in Continual Learning

Jiuqi Wang, Rohan Chandra, Shangtong Zhang[†] arXiv preprint arXiv:2503.20018, 2025.

2. A Survey of In-Context Reinforcement Learning

Amir Moeini, **Jiuqi Wang**, Jacob Beck, Ethan Blaser, Shimon Whiteson, Rohan Chandra, Shangtong Zhang[†] arXiv preprint arXiv:2502.07978, 2025.

- 3. Almost Sure Convergence of Linear Temporal Difference Learning with Arbitrary Features **Jiuqi Wang**, Shangtong Zhang[†] arXiv preprint arXiv:2409.12135, 2024.
- 4. Transformers Learn Temporal Difference Methods for In-Context Reinforcement Learning

Jiuqi Wang*, Ethan Blaser*, Hadi Daneshmand, Shangtong Zhang[†]

Poster at International Conference on Learning Representations (ICLR), 2025

Contributed Talk at the Reinforcement Learning Conference (**RLC**) Workshop on Training Agents with Foundation Models, 2024

Spotlight Award at the International Conference on Machine Learning (**ICML**) Workshop on In-Context Learning, 2024

5. Deep Dive on Checkers Endgame Data

Jiuqi Wang, Martin Müller[†], Jonathan Schaeffer[†] IEEE Conference on Games (**CoG**), 2023

PEER REVIEW

- International Conference on Machine Learning (ICML) 2025
- Reinforcement Learning Conference (RLC) 2025
- International Joint Conferences on Artificial Intelligence (IJCAI) 2025
- International Conference on Artificial Intelligence and Statistics (AISTATS) 2025
- International Conference on Autonomous Agents and Multiagent Systems (AAMAS) 2025
- International Conference on Learning Representations (ICLR) 2025
- Asian Conference on Machine Learning (ACML) 2024
- Reinforcement Learning Conference (RLC) 2024
- International Conference on Artificial Intelligence and Statistics (AISTATS) 2024
- International Conference on Learning Representations (ICLR) 2024

Honors and Awards

IEEE CIS Travel GrantJul. 2023\$500IEEE CISGSA Academic Travel GrantJul. 2023\$500University of Alberta

Science Undergraduate Research Award (SURA) \$7,000

May 2020 McGill University Dean's Honour ListAug. 2018Faculty of Science ScholarshipJul. 2018\$500McGill UniversityComplementary AwardSep. 2017\$3,000McGill UniversityHugh Brock ScholarshipJul. 2017

SKILLS

\$3,000

• **Technology:** Python(NumPy, Matplotlib, Jupyter Notebook, PyTorch, JAX) (advanced), Java (intermediate), Git (intermediate), Linux (intermediate), Lava (advanced)

McGill University

- **Knowledge:** Statistical Machine Learning (advanced), Deep Learning (advanced), (Deep) Reinforcement Learning (advanced), Heuristic Search (advanced), Robotics (intermediate)
- Language: English(proficient), Mandarin(native), French(elementary)