# 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** *Aug. 2023 - present*
*Advised by Prof. Shangtong Zhang* 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*
*Co-Supervised by Prof. Martin Müller and Jonathan Schaeffer* Edmonton, Alberta

- **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*
*Supervised by Prof. Hsiu-chin Lin* Montréal, Québec

- **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** *Sep. 2024 - Dec. 2024*
*Reinforcement Learning* Charlottesville, Virginia

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

**Teaching Assistant** *Jan. 2022 - Apr. 2022*
*Search, Knowledge and Simulations* 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** *Sep. 2021 - Dec. 2021*
*Intro to the Foundations of Computation I* Edmonton, Alberta

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

**Teaching Assistant** *Jan. 2020 - May 2020*
*Intro to Computer Science* Montréal, Québec

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

## Professional Experience

**AI-SCORE 2024** *May 2024 - Jun. 2024*
*University of Maryland* 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** *May 2021 - Jul. 2021*
*PTC Inc.* 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** *Sep. 2024 - Dec. 2024*
*Charlottesville High School* 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. 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.
2. Almost Sure Convergence of Linear Temporal Difference Learning with Arbitrary Features
   **Jiuqi Wang**, Shangtong Zhang†
   arXiv preprint arXiv:2409.12135, 2024.
3. 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
4. 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 Grant** — *Jul. 2023*
*$500* — IEEE CIS

**GSA Academic Travel Grant** — *Jul. 2023*
*$500* — University of Alberta

**Science Undergraduate Research Award (SURA)** — *May 2020*
*$7,000* — McGill University

**Dean's Honour List** — *Aug. 2018*
McGill University

**Faculty of Science Scholarship** *Jul. 2018*
*$500* McGill University

**Complementary Award** *Sep. 2017*
*$3,000* McGill University

**Hugh Brock Scholarship** *Jul. 2017*
*$3,000* McGill University

## Skills

- **Technology:** Python(NumPy, Matplotlib, Jupyter Notebook, PyTorch, JAX) (advanced), Java (intermediate), Git (intermediate), Linux (intermediate), LaTeX(advanced)
- **Knowledge:** Statistical Machine Learning (advanced), Deep Learning (advanced), (Deep) Reinforcement Learning (advanced), Heuristic Search (advanced), Robotics (intermediate)
- **Language:** English(proficient), Mandarin(native), French(elementary)