Soroush Mortazavi

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EDUCATION

University of Waterloo — Waterloo, Canada
Master of Applied Science in electrical and computer engineering — *Sep. 2022 – Sep. 2024*
- Supervisor: Dr. Yash Vardhan Pant and Dr. Sebastian Fischmeister
- Thesis: Robust Reinforcement Learning for Linear Temporal Logic Specifications with Finite Duration

Amirkabir University of Technology — Tehran, Iran
Bachelor of Science in computer engineering — *Sep. 2017 – Mar. 2022*
- Thesis: Learning the Game of Gobblet Through Reinforcement Learning

WORK AND RESEARCH EXPERIENCE

Data Scientist — London, UK (remote)
At Open Power - Empowering Small Scale Generators Everywhere — *Oct. 2023 – Jul. 2024*
- Developed and deployed an ML application for solar panel detection from scratch.
- Developed ML models for solar energy prediction (pytorch).

Research Assistant (CL2 lab) — University of Waterloo
Under the supervision of Dr. Yash V. Pant and Dr. Sebastian Fischmeister — *June. 2022 – Sep. 2024*
- Reinforcment learning (MCTS + NN) for linear temporal logic specifications.
- Full experience of problem-solving, testing solutions, and publishing the results.

Research and Development Intern — Tehran, Iran
At Roshan AI - knowledge enterprise — *Jul. 2020 – Oct. 2020*
- Gathered a Persian text corpus by developing a web crawler application.
- Used the mentioned corpus to create Persian word embeddings.
- Cooperated in the data gathering and the design of a stock market predictor model.

Learning The Game of Gobblet through RL (B.Sc Thesis)
Under the supervision of Prof. Safabakhsh — *Oct. 2020 – Sep. 2021*
- Implemented self-play with Monte-Carlo learning and used a combination of a DNN value function, MCTS and minimax search to act as close as possible to the optimum policy.
- Implemented a user interface to play the game against the self-learned agent

Research Assistant (deep learning lab) — Amirkabir University of Technology
Under the supervision of Prof. Safabakhsh — *Mar. 2020 – Jul. 2020*
- Implemented RNN models for stock market prediction.
- Gathered and preprocessed Iran's stock data, then experimented with many different models on them.
- First exposure to TensorFlow, Keras and TensorBoard; also to efficiently design and train DNNs.

HONORS AND AWARDS

Best paper award at the 37th Canadian Conference on Artificial Intelligence (CAIAC 2024):
For my paper "Robust Reinforcement Learning for Linear Temporal Logic Specifications with Finite Duration"
International Master's Award of Excellence (IMAE) of 2,500 CAD/term: University of Waterloo
Graduate Research Studentship (GRS) Scholarship of 36,000 CAD/year: University of Waterloo
Ranked 19th/30K: In the national university entrance exam among 30 thousand students (2016)
Announced as an Outstanding Student: in Amirkabir University of Technology

SKILLS

Programming Languages: Python, C++, C, Java, MATLAB, JavaScript, SQL-Server
Frameworks and Libraries: PyTorch, MLFlow, TensorFlow, Keras, TensorBoard, Numpy, Scikit-learn, Pandas
Developer Tools: Git, Google Colab, Jupyter lab, VS Code, PyCharm, IntelliJ, Code::Blocks