Fei Wang

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EDUCATION

The Edward S. Rogers Sr. Department of Electrical & Computer Engineering (ECE), University of Toronto Sep 2020 – Now
Master of Applied Science (M.A.Sc.) in Computer Engineering
- Relevant Courses: Convex Optimization, Game Theory and Evolutionary Games, Statistical Learning

Hongyi Honor College, Wuhan University Sep 2016 – Jun 2020
Bachelor of Engineering in Computer Science and Technology (with honors)
- Cumulative GPA: 3.80/4.00 (89.5/100)
- Rank: 4/34 (selected from 587 students in the School of Computer Science, Wuhan University)
- Relevant Courses: Computer Systems Fundamental, Software Engineering, Machine Learning, Principle of Computer Network and Communication, Application Design of Computer Networks

RESEARCH INTERESTS

Networking and Communication; Deep Reinforcement Learning
The broad applications of machine learning in the management of computer networks and services

RESEARCH EXPERIENCE

Refining Congestion Control Online Using Deep Reinforcement Learning, Research Intern
The Edward S. Rogers Sr. Department of Electrical & Computer Engineering (ECE), University of Toronto
Advised by Prof. Baochun Li and Dr. Salma Emara Mar 2020 – Jun 2020
- Built an RL congestion control environment with an asynchronous RL framework where the agent execution does not block the network sender
- Designed online training to speed up the convergence of the agent's behaviors and improve its generalizability in new network environment

Refining Congestion Control by Learning from the Expert, Research Intern
The Edward S. Rogers Sr. Department of Electrical & Computer Engineering (ECE), University of Toronto
Advised by Prof. Baochun Li and Dr. Salma Emara Sep 2019 – Dec 2019
- Refined the expert control policy migrated from our target congestion control protocol in terms of code
- Redesigned the switching mechanism between the expert and the agent control policy, and enhanced the agent's learnability

Rethinking Congestion Control with Deep Reinforcement Learning, Undergraduate Research Assistant
School of Computer Science, Wuhan University
Advised by Prof. Yanjiao Chen May 2018 – Jul 2019
- Employed deep reinforcement learning algorithms such as deep Q-network to generate congestion control policy
- Widely evaluated the designed scheme and the state-of-the-art TCP variants on emulated and real networks via Mahimahi and Pantheon platforms

LEADERSHIP & TEAMWORK

Independent Project in 2019 Interdisciplinary Contest in Modeling (ICM) Jan 2019
Co-Leader, with two peer collaborators majoring in Mathematics and Finance
- Developed a model using cellular automata simulation and queuing theory to analyze and predict pedestrians' behaviors in emergency evacuation in the Louvre, considering the effect of crowd traits and architectural characteristics
- Proposed corresponding policy and procedural recommendations for effective emergency evacuation management of large, crowded buildings

Database System Design and Implementation Oct 2018
Team member
- Implemented an elementary object deputy database system, including the storage management, compiler, execution components
- Created a mobile data query application with the designed database system using Android Studio

SKILLS

Programming/Scripting Language: Python, Java, C, LaTeX, MATLAB, SQL, HTML, CSS
Platforms/Frameworks/Tools: Linux, Windows, TensorFlow, PyTorch, Git, MySQL

AWARDS & HONORS

- Edward S. Rogers Sr. Graduate Scholarship, University of Toronto — 2020
- Excellent Student Cadre, Wuhan University — 2018 & 2019
- Special Overseas Scholarship, Wuhan University — 2018 & 2019
- Outstanding Student Scholarship, Wuhan University — 2016 - 2019