Yuxiao Qu

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Education

University of Wisconsin - Madison	Aug 2020 – Dec 2022
Bachelor of Science in Computer Science (Honor), Mathematics (GPA: 4.00/4.0)	Madison, WI

Work Experiences

Last Lock, Inc.	Sep 2021 – May 2022
Software Engineer (Part-time)	Madison, WI

- Research, design, and develop backend and frontend software to build a real-time dashboard for smart locks
- Conduct and help facilitate code reviews to ensure maximum code quality and reliability

Publications

- Nicholas Corrado, **Yuxiao Qu**, Josiah P. Hanna. "Simulation-Acquired Latent Action Spaces for Dynamics Generalization", Proceedings of Machine Learning Research (PMLR), 2022.
- Yaxin Hu, **Yuxiao Qu**, Adam Maus, Bilge Mutlu. "Polite or Direct? Conversation Design of a Smart Display for Older Adults Based on Politeness Theory", ACM CHI Conference on Human Factors in Computing Systems, 2022.
- Wei Li, **Yuxiao Qu**, Gengjie Chen, Yuzhe Ma, Bei Yu, "TreeNet: Deep Point Cloud Embedding for Routing Tree Construction", IEEE/ACM Asian and South Pacific Design Automation Conference (ASPDAC), 2021. (Best Paper Award)

Teaching Experience

Undergraduate Teaching Assistant	University of Wisconsin – Madison
- COMP SCI 577: Introduction to Algorithms (Honor Session)	Fall 2022
- COMP SCI 537: Introduction to Operating Systems	Fall 2022

Research Experience

Goal-Conditioned RL with Latent Action Space	Nov 2021 – Present
Supervisor: Professor Josiah P. Hanna	Badger-RL Lab, University of Wisconsin – Madison

- Design algorithms to effectively capture the correlations among action features for reinforcement learning tasks
- Make the training process of goal-conditioned reinforcement learning more sample efficient

Simulation of the Connected and Automated Driving Systems (CADS)	Sep 2021 – Jan 2022
Supervisor: Professor Bin Ran	Traffic Operations and Safety Laboratory, University of Wisconsin – Madison

- Apply PID controller and Stanley controller to find the optimal movement trajectory for the vehicles
- Develop a Deep Q-Learning model to control a group of vehicles in an open-source autonomous driving simulator

Telecare Systems Design	Sep 2020 – Sep 2021
Supervisor: Professor Bilge Mutlu	People and Robots Laboratory, University of Wisconsin – Madison

- Develop a healthcare system, Elder Tree, that offers older adults health information, and social interaction
- Develop voice-based and touch-based interactions modes to facilitate older adults with different technology backgrounds

Saving Computation by Slicing Neural Networks Using SVM	Jun 2020 – Sep 2020
Supervisor: Professor Anand Sarwate	Department of Electrical and Computer Engineering, Rutgers

- Analyze intermediate data of neural networks and use SVM to do binary classification for splitting neural networks
- Create a distributive workflow to deploy neural networks on wearable devices and remote computing center

Generating Adversarial Examples in Text Classification	Jun 2019 – Sep 2019
Supervisor: Professor Michael R. Lyu	Department of Computer Science and Engineering, CUHK

- Propose white-box methods and black-box methods to automatically generate adversary text
- Attack state-of-the-art text classification models

Honors & Awards

- Dean's List in Fall 2017, Spring 2018, Fall 2018, Spring 2019, Fall 2019, Fall 2020, Spring 2021, Fall 2021, Spring 2022
- Best paper award in 2021 IEEE/ACM Asian and South Pacific Design Automation Conference (ASP-DAC)
- 2021 ICPC North Central North American Regional Champion (Ranked 15th out of 96 teams regionwide)

Skills & Courses

- Programming Language: Python, C/C++, Java, JavaScript, SQL, React, Linux, Django, LaTeX, GitHub, GCP, Jira
- Courses: Reinforcement Learning, Algorithms, Machine Learning, Computer Graphics, Computer Vision, Operating Systems, Computer Networks, Robotics, Numerical Analysis, Probability, Lienar Algebra, Discrete Mathematics