Yudi (Mike) Qin

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EDUCATION

University of Illinois at Urbana-Champaign — Aug. 2022 - Present
M.S. in Computer Science | Thesis Advisor: Nancy M. Amato

University of Illinois at Urbana-Champaign — Aug. 2018 - May 2022
B.S. in Computer Science + Geography & GIS | GPA: 3.95/4.0
Relevant Coursework: Computer Vision, Intro to Robotics, Robotic Systems, Autonomous Vehicle System Engineering

WORK/RESEARCH EXPERIENCE

Parasol Lab — Aug. 2022 - Present
Graduate Research Assistant — Champaign, IL
- Developed a hybrid algorithm for solving the multi-robot motion planning problem, which achieved improved performance compared to existing algorithms.
- Implemented a working version of the algorithm in PPL(Parasol Planning Library), an open-source C++ task and motion planning library.
- Continuously enhanced the codes with new features and evaluated the algorithm on simulated experiments.
- Integrated ROS to perform physical experiments on TurtleBot3 robots.

Foxconn Interconnect Technology — May 2023 - Aug. 2023
Software Development Engineering Intern — Remote
- Developed a software package in ROS for motion planning for multiple AGV(Automated Guided Vehicle) robots.
- Worked closely with my mentor to put this package into real usage for the company's factory automation.
- Recognized as "Excellent Intern" for consistent contributions and performance during the internship.

Parasol Lab — May 2021 - Aug. 2022
Research Experience for Undergraduate (REU) Student — Champaign, IL
- Assisted in developing and implementing an algorithm for solving the multi-robot motion planning problem.
- Contributed to developing and open-sourcing PPL. Specifically, added testing suites for existing codes, refactored existing codes, and added new components to the library.

CyberGIS Center — Jun. 2020 - Mar. 2022
Student Intern — Champaign, IL
- Developed Python codes for processing large-scale geo-located Twitter data, gathered using Twitter's data collection API.
- Contributed to developing a web-based GIS application that is able to visualize and predict spatiotemporal patterns of infectious diseases.
- Implemented a spatial analytic tool known as MGWR (multi-scale geographically weighted regression) in Python and explored its application on disease data analysis.

TEACHING EXPERIENCE

University of Illinois at Urbana-Champaign — Aug. 2022 - Present
Graduate Teaching Assistant — Champaign, IL
- Applied Machine Learning: Held weekly office hours for answering students' questions and helped with their Python programming assignments (Fall 2022).
- Programming Languages and Compilers: In addition to regular office hours, contributed to developing course contents on PrairieLearn (Spring and Summer 2023).
- Intro to Artificial Intelligence: In addition to regular office hours, took charge of developing programming assignments on neural networks and search algorithms (Present).

PUBLICATIONS

Irving Solis, James Motes, **Mike Qin**, Marco Morales, Nancy M. Amato. Adaptive Robot Coordination: A Subproblem-based Approach for Hybrid Multi-Robot Motion Planning. *IEEE Robotics and Automation Letters*. 2023. Submitted for Review.

SKILLS

Languages: C/C++, Python, Java, JavaScript, HTML/CSS, SQL
Tools/Others: Git/GitHub, Linux, Jupyter, React, Docker, ROS