

Education

University of Rochester

Rochester, NY

*Bachelor of Science in Electrical and Computer Engineering**Aug. 2017 - May 2021*

- Honors: Tau Beta Pi

University of Rochester

Rochester, NY

*Master of Science in Electrical and Computer Engineering**Aug. 2021 - May 2022*

- Concentration: Robotics, Signal Processing

Work Experience

Open Robotics

Mountain View, CA

*Software Engineering Intern**May 2021 - Aug. 2021*

- Redesigned and integrated `rostdoc2` - a domain-agnostic tool for API document generation.
- Developed roadmap features for ROS 2's C++ client API and geometry libraries.
- Authored and contributed to various Secure Robotics Operating System (SROS2) tools and packages to address security concerns in the Robotics Middleware Framework (RMF).

Robotics and Artificial Intelligence Laboratory - University of Rochester

Rochester, NY

*Research Assistant**Aug. 2020 - May 2022*

- Investigated generalizable probabilistic models for motion adaptation of underactuated systems.
- Developed `cpg-viewer` - a Qt5 application (C++) for the 3D visualization of locomotion of arbitrary robot models.

Projects

- **ROS 2:** Open source contributor and reviewer of various packages in the ROS 2 ecosystem. Notable contributions:
 - New playback mechanisms for recorded data
 - Ability to build API documentation for Python packages in domain-agnostic documentation tool
 - Improved code linting infrastructure - file exclusion, better build system integration, etc.
 - “Environment helper” functions in the C++ utilities library
 - General bug fixes in the C++ client API
- **nodl.to.policy:** Tooling to generate a ROS 2 Access Control Policy from the Node Interface Definition (NoDL) of a ROS system, used in secure robotics applications - such as RoMi-H.
Technologies: Python3, CLI entry points, XML, XSLT, Security.
- **Central Pattern Generator (CPG) viewer:** Cross-platform simulation application in Qt5 (C++11) for the 3-D visualization of arbitrary robot model locomotion under configurable CPG parameter sets.
Technologies: C++, Qt, Eigen, CMake, Simulation, Inverse Kinematics.
- **Autonomous mobile robot software architecture:** Developed ROS packages (C++11) for simulation, perception, occupancy grid mapping, path planning, localization, path following controls, and an OpenGL GUI to explore a partially known world using a TurtleBot2.
Technologies: C++, ROS, CMake, SLAM, Sampling-based motion planning, Pure pursuit.

Skills

Languages: C++, Python, C, Bash, Assembly, Java**Tools/Technologies:** Linux, Git, CMake, SQL, Qt5, Testing frameworks (GoogleTest/pytest), CI tools (Travis CI, Github actions), Documentation (Doxygen, Sphinx)