

Jackie Kay

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github: jacquelinekay

WORK EXPERIENCE

Marble – Software Engineer

Aug. 2016 - Present

Early employee responsible for localization and autonomy, continuous integration, benchmarking real-time code, and training deep neural networks on image data.

Open Source Robotics Foundation – Software Engineer

Sept. 2014 - Aug. 2016

Developer, maintainer, and designer of open source software tools for robotics, including the Gazebo physics simulator and the ROS application programming framework.

Open Source Robotics Foundation – Intern

Summer 2014

Implemented visual servoing in 2D and 3D for identifying and grasping objects with the Baxter Research Robot in Python using ROS, OpenCV, and PCL.

Carnegie Mellon Robotics Institute – Summer Scholar

Summer 2013

Led research and development of C++ simulation and path planner for planetary rover navigation based on energy expenditure and thermal levels. Culminated in publication in ISAIRAS 2014.

Swarthmore College Engineering Department – Robotics TA

Fall 2012

Instructed students in ROS, basic Linux usage, and robotics theory.

Swarthmore College Engineering Department – Research Intern

Summer 2011

Implemented color segmentation, pure pursuit, occupancy grid mapping, and simulations for wireless signal strength localization in MATLAB and C++.

EDUCATION AND SKILLS

Swarthmore College

GPA: 3.63 (Computer Science: 3.84)

Graduated June 2014

Computer Science Major, Double Minor in Engineering and Mathematics

Relevant Coursework: Fundamentals of Digital Systems, Data Structures and Algorithms, Mobile Robotics, Computer Vision, Theory of Computation, Natural Language Processing, Computer Architecture, Humanoid Robotics, Computer Networks, Artificial Intelligence, Operating Systems, Adaptive Robotics

Programming Languages: C++, C, Python, Java, Matlab/Octave, Ruby

Tools and Frameworks: CMake, Jenkins, Git, Clang/LLVM tooling (static and dynamic code analysis), Caffe, Android, Qt

PROJECTS

Kvasir

Contributed Python code generator for converting hardware description XML files to C++ constexpr structs to the Kvasir bare metal embedded metaprogramming framework.

FreeRTPS/cmbml

Open source, minimal, embedded-friendly, C++14 implementation of RTPS, the interoperability protocol for robotics and IoT.

HAPTIX

Developed simulation for robotic prosthetic limbs controlled via EEG neural interfaces.

PRESENTATIONS

CppCon - An Embedded RTPS in C++14	September 2016
ROSCon - Real Time Performance in ROS 2	October 2015
CppCon - C++ in Open Source Robotics	September 2015
Co-presented with Louise Poubel	

HONORS AND AWARDS

RISS REU	2013
Competitive NSF research grant for undergraduates from the Carnegie Mellon Robotics Institute.	

William Plumer Potter Fiction Award	2013
Swarthmore Department of English Literature's prize for best student short story.	

Hurd Summer Research Fellowship	2011
Competitive fellowship for undergraduate research in the sciences and engineering.	