SHANE KELLY

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Education

Olin College of Engineering
Robotics Engineering
2018

Security Clearances

DoD Secret

Skills

SOFTWARE

C++
ROS
Linux
Git
Vim
Python
MATLAB
Arduino C

ELECTRICAL

Signal Processing
Analog Circuit Design
Circuit Debugging

MECHANICAL

SolidWorks
Autodesk Inventor
3D Printing
Mill
Lathe

Other Passions

Beekeeping

Table tennis

Billiards

Employment

Olin College of Engineering — Needham, MA
3D Printing Student Teacher — Aug 2014 to Current
I train other students to use 3D printing resources on campus and help to maintain/repair Olin's 3D printers.

MITRE Corporation — Bedford, MA
Software Engineering Intern — May 2017 to Aug 2017
Worked alongside full-time engineers doing C++ development work for a classified government project at the intersection of cyber security and embedded systems.

Amazon Robotics and Olin College of Engineering — Needham, MA
Student Robotics Engineering Contractor — Jan 2017 to May 2017
Aided in development of novel solution to Amazon Robotics' pick and place challenge. Specifically focused on computer vision.

Raytheon BBN Technologies — Cambridge, MA
Sensor Systems Intern — May 2016 to Aug 2016
Built and wrote software for large-scale, real-time embedded systems using C++.

Pharos Labs LLC — Boston, MA
Software Development Intern — May 2015 to Aug 2015
Used python to create applications for internally-facing company research centered around data collection/analysis.

Projects

Autonomous Environment Exploration
Equipped robot with capability to create a 2D map of its surroundings (including transparent obstacles), localize itself within a preexisting map, autonomously navigate elevators, and stitch together maps connected by an elevator. Written in C++ and ROS.

Teach Robots to Learn Complex Tasks
Wrote and implemented a genetic algorithm to teach a group of robots cooperative and competitive behaviors, such as forming a line or playing tag. Written in Python and ROS.

Human-Robot Collaboration
Sponsored by Rockwell Automation, using wearable technologies to optimize cooperation between humans and robots.

Autonomous Robot Racecar
Built an autonomous robot from the ground up to compete in an unmanned vehicle race. Took substantial role in all parts of the project: CAD, body fabrication, electrical design, electrical assembly, and software. Placed first out of four teams.

Interactive Wearable Vest
Worked on CAD, 3D printed manufacturing, and design/implementation of the electrical system for an interactive wearable art piece, which visualizes body data of the wearer and their surroundings.

Analog Control of a DC Motor
Designed and implemented analog control to set position of a DC motor without any added sensors.

Patent Pending
Currently patent pending for an apparatus that prevents moisture absorption in filaments during 3D printing and long-term storage.

Relevant Coursework

Fundamentals of Robotics, Robotic Systems Integration
Learn and demonstrate ability in robot construction, electrical layout, and software development.

Computational Robotics
A software-focused approach to applied robotics.

Principles of Engineering
Project-based integration of software, electrical, and mechanical systems.

Software Systems
Learn C and basic data structures.