

Adam Driscoll

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EDUCATION

Carnegie Mellon University, School of Computer Science

Master of Science in Robotic Systems Development, QPA 3.93/4.33

Fall 2017 Selected Coursework: Machine Learning | Manipulation, Estimation, and Control

Spring 2018 Selected Coursework: Computer Vision | Robot Autonomy | SLAM

Pittsburgh, PA

December 2018

Worcester Polytechnic Institute

Bachelor of Science in Robotics Engineering

Worcester, MA

May 2012

ACADEMIC PROJECTS

GroundsBot, www.groundsbot.com

Carnegie Mellon University

Software Developer

September 2017 – May 2018

- Designing an autonomous field robot capable of mowing the rough grass at a golf course with no additional infrastructure
- Created robust perception & localization subsystems by fusing data from stereo camera, RTK GPS, IMU, & encoders using C++
- Created GPS waypoint following & acceleration smoothing algorithms used in the navigation subsystem of GroundsBot
- Achieved obstacle detection and avoidance by integrating the ROS Navigation stack into software architecture
- Increased testing and iteration speed by integrating detection and planning algorithms into simulation with Gazebo

Computer Vision Course

Carnegie Mellon University

- Detected and outlined object boundaries in a variety of images by implementing the Hough transform algorithm in MATLAB
- Achieved ~50% accuracy (the expected level of accuracy for assignment) to classify an image into 1 of 8 categories by implementing a Bag of Words classifier using Harris corner detection & KNN
- Building a neural network to be used for optical character recognition, including implementing forward pass & backpropagation using the sigmoid & softmax activation functions

Autonomous Wheelchair

Northeastern University

Research Assistant

February – May 2017

- Programmed an autonomous wheelchair to transport elderly people from a nursing home to the Northeastern campus
- Determined best SLAM implementation for the autonomous wheelchair and implemented the Cartographer system using ROS

Autonomous Mapping Robot

Worcester Polytechnic Institute

Software Developer

March – April 2011

- Developed mobile robot using Java to autonomously map & navigate a small hallway with static obstacle avoidance
- Utilized a combination of ultrasonic sensors & encoders to localize, perceive, & map environment

PROFESSIONAL EXPERIENCE

Amazon Robotics

North Reading, MA

Operational Stability Engineer

July 2015 – February 2017

Field Service Engineer

February 2013 – July 2015

- Developed over 20 automation tools to replace manual task execution & reduce system failures
- Led more than 100 high severity calls with general & regional directors to resolve critical software issues
- Provided technical guidance to 120 zones across 36 Amazon Fulfillment centers to identify & resolve operational challenges
- Analyzed over 200 complex software issues & identified their root causes
- Collaborated with development teams to identify bugs & implement new features
- Troubleshooted errors on all hardware components of the Amazon Robotics solution using a combination of MySQL queries & internally developed hardware testing tools
- Created a set of MySQL queries to collect data from 29 commercial client facilities
- Aggregated & presented this data in a user friendly, graphical format using internally developed tools to allow maintenance teams to efficiently analyze warehouse status

SKILLS

Programming Languages: Python, C++, MATLAB, Bash, MySQL, Java, C

Frameworks and Operating Systems: Linux (Ubuntu, Red Hat), ROS, Git