Nick Walton

https://nickwalton.github.io
nickwalton00@gmail.com
385-250-1025

Education

BS. Candidate **Computer Science** Brigham Young University

- CGPA: **3.71 / 4.0**
- Expected Graduation Date: December 2019
- Completed Significant Mech. Eng. Coursework Including: Mechatronics, System Dynamics, Elements of Electrical Engineering, Scientific Computing

Skills

Robotics: ROS, Linux, Computer Vision**,** Deep Learning, Simulation
Programming: C++, Python, Java, Matlab, TensorFlow, Unreal Engine
Other: Japanese**,** reading and conversationally fluent

Work Experience

AI and Robotics Research Assistant, BYU Perception, Cognition and Control Lab, April 2018 - Present

- Implemented complex robotic agents in“Holodeck” an open source robotics simulator for reinforcement learning using Unreal Engine and C++
- Optimized multi camera system in Holodeck simulator decreasing FPS by half

Autonomous Driving System Engineering Intern, Autoliv Japan, Jun 2017 - Dec 2017

- Researched 3D computer vision methods for detecting objects with Lidar
- Analyzed CAN signals and created reports of radar object tracking accuracy
- Developed software tools for analyzing performance of radar HIL (Hardware In the Loop) testing infrastructure

Robotics and Dynamics Research Assistant, BYU RadLab, Sep 2016 - Jun 2017

- Researched and tested accuracy of IMU’s for estimating joint angles on inflatable robots
- Developed software for IMU communication and validation using Python, C++ and ROS

Project Experience

Autonomy Team Member, BYU Mars Rover, 2012-2013, 2018 - Present

- Developed a object recognition system that achieved 99% accuracy
- Designed and fabricated soil digging system that played key role in rover’s success
- Won 1st as a team in U.S. at international competition in series of robotics challenges

Simulated Self Driving Car, Udacity Project, May 2017 - Sep 2017

- Developed a traffic sign classifier using CNNs in TensorFlow
- Trained a simulated self driving car using behavioral cloning and CNNs that was able to smoothly and safely navigate a complex environment
- Used Computer Vision techniques to robustly detecting lane lines in a video stream

Robot Arm Design, Personal Project, May 2016 - Present

- Analyzed torque, stress, and power requirements for 4 DOF robot arm
- 3D printed, assembled and wired robot arm
- Created software to control robot arm on Linux using ROS and python