Thomas Keady

LINKS

EDUCATION

JOHNS HOPKINS UNIVERSITY

Baltimore, MD
Cumulative GPA: 3.56

MSE in Robotics
May 2019
Baltimore, MD

BS in Electrical Engineering &
Computer Engineering
May 2018

SKILLS

PROGRAMMING LANGUAGES

Python 3 • C++ • Bash • C

TOOLS

ROS2 • Git • Docker • Jupyter • Eclipse •
MATLAB • Altium

OPERATING SYSTEMS

Linux • Windows 10 • MacOS

ACHIEVEMENTS

JOHN MUIR TRAIL

Aug. 2022 | California, USA
Successfully thru-hiked 210 miles over
16 days

YOUNG MAKER COMPETITION

July 2019 | Beijing, China
Second Prize for Kinect-powered
weightlifting assistant

DJI ROBOMASTER AI CHALLENGE

May 2019 | Montreal, Canada
Third Prize, highest ranking American
team

HOBBIES

- Reading
- Rock climbing
- Board games
- Home automation

RELEVANT EXPERIENCE

MIT-PITT-RW | Core Team Member

Dec. 2022 - present | Pittsburgh, PA
- Volunteering part time to improve deployment processes & hardware accelerate algorithms for competitor motion prediction
- Preparing for Indy Autonomous Challenge at CES

GECKO ROBOTICS | Electrical Engineer

Aug. 2019 - Nov. 2022 | Pittsburgh, PA

- Developed localization codebase for mobile robots in challenging environments
- Filtered and interpreted data from IMUs, odometry & 3D sensors
- Designed finite state machines to drive sensors and implemented them using object-oriented programming principles
- Researched, acquired & integrated diverse sensors & ground truth systems
- Iterated data processing pipelines for system performance analysis, visualized results and presented to stakeholders
- Designed, prototyped, integrated & deployed PCBs with custom firmware for mobile robot platforms
- Wrote embedded firmware for robot telemetry & inter-board communication
- Iterated board versions to improve reliability, DFM and DFA

FACTORYFOUR | Research & Development Team Member

May 2015 - June 2018 | Baltimore, MD
- Designed and implemented scalable distributed architecture for 3D scanner with Raspberry Pis
- Achieved wireless time synchronization (<10ms max offset) between 32 Pis using NTP
- Automated 3D model generation with Agisoft Photoscan API
- Created fault-tolerant program for remote control of RepRap CNC machines

ELECTRONIC TRACKING FOR EARTH MOVERS | Advanced ECE Team Project Member

Sept. 2016 - May 2018 | Baltimore, MD
- Developed proof of concept for a mobile tracking system to prevent collisions between heavy machinery and construction workers
- Implemented Sequential Monte Carlo Particle Filter to estimate worker position relative to vehicle
- Experimented with software protocols and hardware platforms including networks of RFduinos, BLE Beacons, and iPhone receivers
- Won Best Technology Award and 3rd Place in Category at JHU Business Plan Competition 2018

APPLIED PHYSICS LABORATORY | Advanced Application Scholars Program Intern

May 2016 - Aug. 2016 | Laurel, MD
- Wrote driver for lossless communication with realtime wireless sensing platform
- Implemented dead reckoning calculations in C++ from IMU array as outlined in "Foot-mounted inertial navigation made easy" publication from the OpenShoe Project
- Created Java Native Interface for driver integration with existing Java projects
- Modified solar battery charger to change buck-boost converter output from 12V to 25.2V