

Thomas Keady

LINKS

☎ • 516-729-9535

Personal Website • thomaskeady.github.io
Linkedin • linkedin.com/in/thomas-keady
CV • read.cv/thomaskeady

EDUCATION

JOHNS HOPKINS UNIVERSITY BALTIMORE, MD

Cumulative GPA: 3.56

MSE IN ROBOTICS

Perception & Cognitive Systems
May 2019

BS IN ELECTRICAL ENGINEERING & COMPUTER ENGINEERING

May 2018

SKILLS

PROGRAMMING LANGUAGES

C++ • Python 3 • Bash • C

TOOLS

ROS 2 Humble • Git • Docker • Jupyter •
Eclipse • MATLAB • VSCode • Altium

OPERATING SYSTEMS

Ubuntu Linux • Windows 10 • MacOS

ACHIEVEMENTS

JOHN MUIR TRAIL

AUG. 2022 | CALIFORNIA, USA
Successfully thru-hiked 210 miles over
16 days despite record breaking rain

YOUNG MAKER COMPETITION

JULY 2019 | BEIJING, CHINA
Second Prize for Kinect-powered
weightlifting assistant

DJI ROBOMASTER AI CHALLENGE @ ICRA

MAY 2019 | MONTREAL, CANADA
Third Prize, highest ranking American
team at autonomous robot airsoft

YOLOBIKE @ HOPHACKS

FEB. 2019 | BALTIMORE, MD
First Prize for LIDAR & hardware
accelerated machine learning safety
system

RELEVANT EXPERIENCE

SARCOS ROBOTICS | AUTONOMY & PERCEPTION ENGINEER

April 2023 - present | Pittsburgh, PA

- Led successful field testing of our semi-autonomous robotic system to improve real world perception, manipulation & integration with third-party hardware
- Improved existing computer vision algorithms & developed new ones for autonomy in semi-structured environments using OpenCV and C++
- Enhanced ROS-based unit & integration testing framework & enumerated cases
- Collected new datasets & developed automated tools for algorithm analytics
- Implemented & integrated a new user interface for tele-operation of a pan-tilt-zoom camera in a robotic system

MIT-PITT-RW | CORE TEAM MEMBER

Dec. 2022 - present | Pittsburgh, PA

- Volunteering part time to improve racecar sensor data processing in C++, targeting better estimation and robustness to diverse environments
- Prepared for Indy Autonomous Challenge at CES, where the team placed 4th

GECKO ROBOTICS | ROBOTICS ENGINEER

Aug. 2019 - Nov. 2022 | Pittsburgh, PA

- Developed localization codebase for mobile robots in challenging environments
- Researched, acquired & integrated diverse sensors like IMUs, odometry & 3D ground truth systems and developed filtering & data interpretation algorithms
- Designed finite state machines to drive sensors and implemented them using object-oriented programming principles
- Iterated data processing pipelines for system performance analysis using python, visualized results and presented to stakeholders
- Designed, prototyped, integrated & deployed PCBs with custom firmware for mobile robot platforms
- Wrote embedded firmware in C for robot telemetry & communication
- Iterated board versions to improve reliability, Design for manufacturing, Design for assembly and Design for repair

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 C++ driver for lossless communication with wearable wireless multi-IMU sensing array
- Implemented dead reckoning calculations in C++ 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 control buck-boost converter output voltage