

Thomas Keady

thomaskeady.github.io

516-729-9535
thomas.keady@jhu.edu

Education

Johns Hopkins University

Bachelor of Science - Double Major in Electrical Engineering and Computer Engineering
Cumulative GPA: 3.54

Baltimore, MD
Expected May 2018

South Side High School

International Baccalaureate Diploma with Certificate in Physics Higher Level

Rockville Centre, NY
June 2014

Languages

Advanced: C++, Python, Perl
Familiar: MATLAB, Java, C
Beginner: VHDL, Assembly

Technical Skills & Tools

Advanced: 3D printing, Bluetooth, soldering
Familiar: Power electronics, Raspberry Pi, systems design
Beginner: Laser cutting, signal processing

Experience

FactoryFour

Research & Development Team

Baltimore, MD
May 2015 - present

- Designed and implemented scalable distributed architecture for 3D scanner with Raspberry Pis
- Achieved wireless time synchronization (<10ms max offset) between 25 Pis
- Automated model generation with Photoscan API and adjustable camera settings
- Created robust script for remote control of RepRap CNC machines via the Internet
- Team selected to receive support from 500 Startups and Accelerate Baltimore

Galen Robotics

Hardware Engineering Intern

Baltimore, MD
May. 2017 - present

- Upgraded electrical systems for next generation prototype Robotic Ear, nose and throat Microsurgery System (REMS) and new Preoperative Positioning System (PPS)
- New features include backup battery, internal computer with option for external computer, fly-by-wire solenoid brakes, internal temperature monitoring and integrated tool IO
- Exhibited REMS and PPS at the American Academy of Otolaryngology - Head & Neck Surgery Annual Meeting in September 2017

Electronic Tracking for Earth Movers

Advanced ECE Team Project Member

Baltimore, MD
Sept. 2016 - present

- Working with team to develop proof of concept for a mobile tracking system to prevent heavy machinery from colliding with construction workers
- Developing Sequential Monte Carlo Particle Filter to estimate worker position relative to vehicle
- Experimented with hardware platforms including networks of RFduinos, BLE Beacons, and iPhone receivers
- Experimented with software Bluetooth protocols to estimate worker position using RSSI readings

Laboratory for Computational Sensing and Robotics

Lab Manager & Student Researcher

Baltimore, MD
Feb. 2016 - present

- Designed electrical systems for 5 degree of freedom original PPS
- Constructed power distribution circuits with emergency stop for motors and hydraulics
- Constructed control circuits and user interface including position sensing encoders
- Designed and coded logic and user interface design for simultaneous control of actuators via touchscreen and joystick
- Provided instrumentation solutions for different surgical tools including drills and lasers
- Next generation prototype constructed as part of Galen Robotics

Applied Physics Laboratory

Advanced Application Scholars Program Intern

Laurel, MD
May. 2016 - Aug. 2016

- Wrote C++ driver class for lossless communication with wireless sensing platform
- Created Java Native Interface for driver integration with existing Java projects
- Modified solar-powered battery charger circuit to change output voltage of buck-boost converter from 12V to 25.2V