Thomas Keady

thomaskeady.github.io

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Education

Johns Hopkins University — Baltimore, MD
Bachelor of Science - Double Major in Electrical Engineering and Computer Engineering — Expected May 2018
Cumulative GPA: 3.52

South Side High School — Rockville Centre, NY
International Baccalaureate Diploma with Certificate in Physics Higher Level — June 2014

Technical Skills & Tools

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

Languages

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

Experience

Laboratory for Computational Sensing and Robotics — Baltimore, MD
Student Researcher — Feb. 2016 - present

- Designed electrical systems for 5 degree of freedom Preoperative Positioning System for prototype surgical robot
- Constructed power distribution circuits with emergency stop for motors and hydraulics
- Constructed control circuits and user interface including position sensing encoders with readout on a touchscreen display
- 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
- Currently designing electrical systems for next generation prototype

FactoryFour — Baltimore, MD
Design Engineer — May 2015 - present

- Designed robust low cost device to remotely control CNC machines via web interface
- Designed wearable data collection platform to record forces experienced by lower limb orthotic devices
- Constructed platform for use in IRB study and calibrated sensors to output real force values
- Team selected to receive support from Accelerate Baltimore and 500 Startups

Electronic Tracking for Earth Movers — Baltimore, MD
Advanced ECE Team Project Member — Sept. 2016 - May 2018

- Worked with team to develop proof of concept for a mobile tracking system to prevent heavy machinery from colliding with construction workers
- Experimented with hardware platforms including networks of RFduino, BLE Beacons, and iPhone receivers
- Experimented with software Bluetooth protocols to estimate worker position using RSSI readings
- Best system could estimate worker position relative to vehicle within 3 meters

Applied Physics Laboratory — Laurel, MD
Advanced Application Scholars Program Intern — 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
- Researched specifications of inertial measurement units and electronic speed controllers

Bloomberg School of Public Health — Baltimore, MD
Information Technology Assistant — Mar. 2015 - Feb. 2016

- Resolved hardware and software issues for medical researchers and administrative staff
- Developed code to maintain and support data collection and database servers
- Used APIs to build survey tools for Android devices, focused on user experience