Nathaniel S. Hartwig

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Availability

6 month co-op/ internship

Education

Northeastern University, Boston, MA
Bachelor of Science in Computer Engineering **May 2019**
Minor in Mathematics

GPA	3.45/4.0
Honors	Dean's List, Northeastern Excellence Scholarship
Courses	Robotics- Sensing and Navigation, Database Design, Advanced Algorithms, Digital Design, Networks, Noise & Stochastic Processes, Linear Systems, Embedded Design
Extracurriculars	Northeastern Cycling Team, IEEE Northeastern, NU Wireless Club, Gordon Leadership Institute

Saltus Grammar School, Pembroke, Bermuda **June 2014**

Skills

Electronics	Soldering, Breadboard/Perfboard Prototyping, ReFlow Oven Operation, Power Supply Design
Programming	VB.Net, C++, C, SQL, Python, ROS, LCM, MIPS, Verilog HDL, Arduino IDE, RESTful Web APIs,
Lab Equipment	Bosch XDK110 IoT Sensor, Agilent E3647A Power Supply, Agilent 33220 Function Generator, National Instruments DAQ 6001, Schaffner 6100 Surge Generator, Testo FLIR Camera, Xitron 2802 Power Analyzer
Software	Git, Linux Ubuntu 16.04, Matlab, .Net Framework, Postman, MySQL, Microsoft SQL Server, Bosch XDK Workbench
Languages	Danish, English

Relevant Experience

Arcstone Incorporated, Singapore **July- Dec. 2017**
Software Developer

- Spearheaded development of an elevator maintenance application for Singapore public housing board
- Developed algorithm to calculate elevator metrics such as car position in building based on IoT sensor data
- Used RESTful APIs to access public GIS data to create an interactive map visualization of Singapore
- Implemented USB data transfer protocol to create a serial port monitoring/logging tool
- Gained front end development experience building app UIs in XAML
- Communicated regularly with clients to discuss design specs and traveled to conduct client site visits
- Participated in weekly code reviews with CTO

Philips Color Kinetics, Burlington, MA **July- Dec. 2016**
Electrical Engineer

- Tested luminaires on EMI using 3 meter chamber, Surge/EFT using Schaffner 6100 Surge Generator, and power/efficiency using Xitron 2802 power analyzer to verify product updates met UL, CE and Energy Star standards
- Tested hardware and firmware during board bring-up processes, performed re-works when issues were identified
- Developed 48V 8W power supply using buck converter topology for linear indoor luminaire
- Participated in weekly team meetings and block diagram design reviews

Projects

Manipulation of Robotic Arm via BlueTooth **Fall 2015**

- Developed an embedded system on Zedboard FPGA to control a robotic arm using a WiiMote.
- Wrote C code with partner in a provided framework through MobaXTerm SSH client to access Zedboard server, created a digital design in MatLab Simulink to program Zedboard FPGA, calibrated robotic arm Servo motors.
- Embedded system enabled a user to remotely pick up a small box with the robotic arm.

EKG Measurement and Digital Processing/ Filtering **Fall 2015**

- Implemented the AD627 instrumentation amplifier and LM741 op amp in EKG acquisition circuit on a protoboard
- Analyzed characteristics of the human EKG signal such as the QRS complex and the period

Other Skills and Interests

Sport	Competed in 2012, 2013 junior Caribbean Cycling Championships in Santo Domingo, DR, and Oranjestad, Aruba. Competed in 2013 CARIFTA games (track and field) in Nassau, Bahamas
Hobbies	Avid outdoors enthusiast. Enjoy kayaking, surfing, hiking, mountain biking, rock climbing, bouldering, and trying new activities.