RYAN C
O'SHEA

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computing-focused electrical engineer ◦
full-stack web developer & software engineer ◦
greater boston ◦

EDUCATION

Princeton University Princeton, NJ
B.S.E. in Electrical Engineering, Certificate in Computer Science
Graduated Cum Laude, elected to Sigma Xi Research Society

May 2016
GPA: Departmental **3.84**/4.00,
Overall **3.60**/4.00

Coursework: Computer Architecture, Full-stack Web Development, Electrical System Design & Implementation, Sensors & Bus Protocols, Embedded Devices, SBC Programming, Digital Logic Design, Cryptography & Information Security, Circuit Design, Basic Classical Control, Semiconductor Devices, Algorithms & Data Structures, Systems Programming, Signals & Systems

Devon Preparatory School Devon, PA

June 2012
GPA: **4.46**/4.46

EXPERIENCE

Vecna Technologies Cambridge, MA Summer 2015
Electrical/Firmware Engineering Intern

Developed firmware applications on ARM and PIC microcontrollers governing low-level sensor and battery management systems for large-scale fully autonomous robotic automation solutions for industrial and commercial environments. Supported Vecna's Robotics Logistics Solutions division via design of next-generation robotics hardware, troubleshooting electrical systems, and development of firmware for device communications over bus protocols (I^2C, CAN) and robot configuration over serial interfaces.

Comcast Philadelphia, PA Summer 2014
Product/Software Engineering Intern

Supported the Commercial Voice Product Solution Engineering team at Comcast Business. Designed and developed a solution for handling complex telephone directory listings and reducing related costs: a web application for a user base of 20+ million customers, submitted to relevant business/engineering leads and prepared for continuation by another team. Additionally, conducted UX design work as part of a team piloting an embedded application with future market presence and revenue/branding implications. Built a tool which automated reporting of sales statistics for mobile applications.

iD Tech Camps Villanova University, PA Summer 2013
Java Instructor, Camp Counselor

Designed and taught courses in Java programming for ~60 students aged 12 to 17. Topics included basic programming concepts, inheritance, polymorphism, error catching, classes, sorting, searching, recursion, basic data structures, and graphical interfaces in Swing. Guided each student in designing and building a final project meeting high standards for proficiency. Jointly responsible for the well-being of 60–100 campers at all times.

Devon Preparatory School Devon, PA Summer 2012
Java/Web Design Instructor (Summer Enrichment Program)

Wrote and taught series of courses that engaged junior high school students in web design, basic programming in Java, and basic animation in the Processing.org framework.

Music, Entertainment, and Technology Lab Summer 2011
Drexel University, PA
Web Design/Research Intern

Planned and built an upgrade to a Drupal-based website to showcase MET-lab operations and research. Assisted in research projects related to machine listening and music information retrieval.

TECHNICAL SKILLS

Proficient with:

Software Engineering: Java, C
I can design and write efficient and effective programs, implement complex algorithms and data structures, and have been developing with Java for 7 years and C for 2.

Web development: HTML5, CSS3, JavaScript, AngularJS, Node.js, Express.js, jQuery, MongoDB, Bootstrap, REST
I have experience building dynamic, engaging, responsive, standards-compliant websites using modern techniques. I'm familiar with new technologies in HTML5 & CSS3, cross-browser development, single-page applications, and the MEAN stack. [e.g. ryanoshea.com, pollprinceton.com]

Version control: Git/GitHub
Platforms: Windows, OS X, Linux (Ubuntu/Debian)
Productivity: Microsoft Office, OpenOffice, Google Apps

Graphic design: Adobe Photoshop, Illustrator, InDesign, Dreamweaver, Bridge, Acrobat, GIMP

Photography: Nikon/Canon DSLRs, Adobe Lightroom

Moderate to brief experience with:

Hardware engineering: PCB layout & DFM (EAGLE), communications protocols (I^2C, CAN, RS-232, UART, XBee), CPU implementation & design (Verilog, FPGAs), digital/analog circuits, PID controllers, optoelectronics, SPICE, semiconductor fabrication (etching/photolithography), oscilloscopes
Firmware: ARM M4/7, PIC18/32, BeagleBone (Python), Arduino, Cypress PSoC
Web development: PHP, WordPress, Drupal
Programming: Python, Android Java, MATLAB, MIPS & IA-32 Assembly, R, Processing, Subversion, Visual Basic (brief experience with Simulink, C++, CUDA C++)