



## SUMMARY

- Programmer, engineer, and maker-of-things who is passionate about fusing form with function.
- 5+ years in the mechanical engineering industry, 3+ years experience in hardware design.
- Current software engineer involved in various projects at Sony Electronics in San Diego, CA.

## TECHNICAL TOOLBOX

- **Software:** Advanced 3D CAD experience (SolidWorks, Autodesk Inventor, Pro/e); proficiency in Microsoft Office, Photoshop/Illustrator; familiarity with Jenkins CI/CD, AWS Console, Docker.
- **Programming:** HTML5/CSS3/JavaScript, Ruby on Rails, PostgreSQL, Arduino (C++), MEAN stack (MongoDB, ExpressJS, AngularJS, NodeJS), Python, Java/Android, Shell/Bash scripting.
- **Additional Web Tools:** jQuery, Bootstrap, React, BackboneJS, Jasmine and Rspec/Capybara testing tools, Electron, Heroku, Amazon Web Services, JIRA/Confluence, API Blueprint.
- **Mechanical/Hardware:** Design for Manufacturability, mechanical/assembly design, hands-on machine shop and tooling skills, rapid prototyping, 3D printing, finite element analysis, technical writing, and Arduino/Raspberry Pi project experience.

## PROJECT EXPERIENCE

### **pi-oh-tee | Personal Project**

- Description: Local network API/UI server running on a Raspberry Pi 3, designed to work with Arduino-powered relays over WiFi for a custom-built internet of things (IoT) solution.
- Skills Employed: Arduino (C++), Raspberry Pi, React, Node/ExpressJS, 3D modeling/printing, electronics.

### **EllieDee (www.ellie-dee.io) | Personal Project**

- Description: Arduino-powered 12 x 12 LED matrix with full-stack web/mobile app controller.
- Skills Employed: Arduino (C++), HTML5, CSS3, JavaScript, jQuery, Bootstrap, Ruby on Rails, PostgreSQL, Android, SolidWorks, Product Design, 3D printing, electronics, woodworking.

### **Whelp (barksandrec.herokuapp.com) | Group Project**

- Description: Group project completed at LEARN Academy that allows users to create, share, and RSVP to dog-friendly venues and events in their area.
- Skills Employed: HTML5, CSS3, JavaScript, jQuery, Bootstrap, Ruby on Rails, Rspec/Capybara, PostgreSQL, Heroku, Agile workflow.

### **LEARN Academy (Various) | LEARN Academy**

- Description: Daily challenges and projects pertaining to full-stack web development and programmatic comprehension.
- Skills Employed: HTML5, CSS3, Bootstrap, JavaScript, jQuery, DOM, Ruby on Rails, SQL, Git/GitHub, BDD, ActiveRecord, verification/testing, REST, AJAX, professional development.

## **PROFESSIONAL EXPERIENCE**

### **Sony Electronics | San Diego, CA**

*Software Engineer | March 2017 - Current*

- Assist in the full-stack migration of an internal-use admin console application and related microservices to Amazon Web Services (AWS), including the conversion of a single MongoDB instance to a fault-tolerant replica set.
- Continually implement front-and back-end bug fixes and feature requests for the admin console app.
- Design, implement, and integrate an Arduino-driven retail display prototype with an interactive user interface for future production.
- Create an internal-use, cross-platform Electron application for configuring retail displays utilizing existing APIs.
- Convert legacy continuous integration and deployment Jenkins processes to “pipeline as code” via a Jenkinsfile script.
- Implement server-side http request validation and sanitization for all API endpoints, along with comprehensive unit testing for public and private endpoints using JasmineJS.
- Update and maintain API server documentation using API Blueprint, a markdown language geared towards documenting web APIs.

### **Victorise | Carlsbad, CA**

*Full-Stack Developer (Intern) | Feb 2017 - March 2017*

- Assisted in the MVP development of the Victorise sports tracking app using the MEAN stack (MongoDB, ExpressJS, AngularJS, NodeJS) wrapped in the Cordova/Ionic frameworks for cross-platform use (iOS and Android).
- Optimized mobile app runtime by isolating and prioritizing data-loading methods on startup.
- Designed, modeled, and 3D printed the goggle attachment for the app's arduino/bluetooth hardware.

### **Carlsbad Manufacturing Corporation | Carlsbad, CA**

*Product Design Engineer | March 2015 - Oct 2016*

- Applied engineering and design-for-manufacturability (DFM) principles to the fabrication of new client projects and existing manufacturing processes (steel, aluminum, fiberglass, and PVC).
- Provided remote and on-site support for all internal manufacturing facilities.
- Interpreted customer specifications/requirements to create or modify SolidWorks models and technical drawings.
- Initiated new product design and development.
- Provided support and feedback to new SolidWorks users within the company.

### **BMT Scientific Marine Services | Escondido, CA**

*Mechanical Engineer (Contract) | Aug 2014 - Nov 2014*

- Designed and developed SolidWorks parts/assemblies for subsea monitoring instrumentation.
- Assisted the quality control of CAD models, ensuring design-for-manufacturability and adherence to specifications set forth by the client and ISO design standards for subsea applications.
- Collaborated with fellow engineers to ensure subsystems interface as intended per top-level design specs.
- Generated technical reports reflecting design-basis and FEA for client review and approval.

## **QuikScann3D | Encinitas, CA**

*3D Scanning & Printing Technician | Nov 2013 - Aug 2014*

- Provided technical assistance for the first U.S. direct-to-customer 3D body scanning and printing service.
- Processed raw data from projected light-based scanners to produce fully colored and textured PLY files.
- Developed customizable CAD models to 3D print along with client body scans.
- Mobilized equipment and scanned talent on-location for various Hollywood movie studios, including Disney and Paramount.

## **UC Davis Engineering Fabrication Lab | Davis, CA**

*Student Assistant | July 2011 - July 2013*

- Completed various self-directed and assigned manufacturing and fabrication projects.
- Operated and maintained machines, tools, and 3D rapid prototyping printer.
- Utilized Autodesk Inventor to design replacement parts and tools for use throughout shop.
- Trained new student assistants in safety standards and shop procedures.
- Acted as lead rapid prototyping technician, supporting users with 3D CAD design and printing.

## **EDUCATION**

### **LEARN Academy**

*San Diego, CA | March 2017*

12-Week Full-Stack Ruby on Rails and JavaScript Bootcamp

### **University of California, Davis**

*Davis, CA | June 2013*

Bachelor of Science Degree in Mechanical Engineering (BSME)