Nathan Dunn

CONTACT INFORMATION

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EDUCATION

University Of Massachusetts Amherst **Graduating May 2017**
B.S., Computer Systems Engineering GPA: 3.94

PROFESSIONAL EXPERIENCE

Brightergy LLC, Kansas City, MO

Software Development Intern **Oct 2016 – January 17**

Working remotely, I help to sustain the DevOps culture by assisting with QA testing and developing new ways to monitor key production statistics. Some of my responsibilities have included:

- Developing unit tests for back-end APIs
- Contributing to an open-source Elixir project to display automated script/testing results on company dashboards

Fidelity Investments, Merrimack, NH

Software Development Intern **May 2016 – Aug 2016**

I served as the front-end developer on the complete rewrite of an internal web application used to display relevant company financial data to managers/executives. Utilizing Angular 1.5 and Typescript, I created a modular, component based architecture. I communicated regularly with offsite backend developer and graphic designer, to coordinate and deliver on product features. The application is scheduled to go live in the first quarter of 2017.

University of Connecticut, Storrs, CT

Undergraduate Researcher **May 2015 – Apr 2016**

Through a Research Experience for Undergraduates program funded by the National Science Foundation, I worked in a group investigating methods to identify counterfeit integrated circuits. Some of my projects included:

- Developing a PHP MVC web application for industry and academic professionals to share counterfeit inspection results
- Writing a MATLAB image processing program to identify scratches on integrated circuit casings
- Assisting in the writing and editing of an academic conference paper

Depuy Synthes Orthopaedics, Raynham, MA

Foundry Engineering Co-Op **Jan 2013 – June 2013**

Worked with Foundry Engineers to improve manufacturing processes within an investment casting foundry. Major initiatives included:

- Validation of new viscosity measuring equipment to meet process specifications
- Production of training video for new operators to ensure consistent assembly of wax sprues
- Creating a new Microsoft Access organizational system for metallurgical samples.

PROJECTS

Earbeamer

Senior Design Project **September 2016 - Present**

Currently building a beamforming hearing aid system that uses image and audio processing to dynamically track and isolate the audio streams of all individuals within a room. A user can then amplify or attenuate each audio stream at will. I implemeneted target tracking in C++ using an Xbox Kinect, and designed the microphone array geometry to maximize directivity

SELECTED PUBLICATIONS

N. Asadizanjani, S. Gattigowda, N. Dunn, D. Forte, and M. Tehranipoor, "A Database for Counterfeit Electronics and Automatic Defect Detection Based on Image processing and Machine Learning," *Int. Symposium on Testing and Failure Analysis (ISTFA)*, 2016.

PROGRAMMING EXPERIENCE

Languages: C++, Java, Typescript/Javascript, Elixir, MATLAB, Verilog, MIPS Assembly, Bash
Web Technologies: AngularJS, Phoenix Framework, HTML, CSS, Bootstrap, Jasmine Testing
Other Skills: Bash Scripting, MySQL, PostgreSQL, Linux/Unix, Apache HTTP Server