

# Kevin L. Madison

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## Employment

### **Researcher, University of South Carolina - Heterogeneous and Reconfigurable Computing Lab**

August 2017 - Present | Columbia, SC

- Currently investigating the performance of a persistent memory driven architecture. **(C/C++)**

### **Teaching Assistant, University of South Carolina - Computer Science and Engineering**

August 2017 - Present | Columbia, SC

- Full-time lead TA for the Introduction to Algorithmic Design course at USC where I teach students through programming projects designed to illustrate the fundamentals of Java. **(Java)**

### **Research Intern, Integrated Material Assessment & Predictive Simulation Lab, USC**

May 2017 - August 2017 | Columbia, SC

- Wrote a large portion of code for a \$775,072 NASA grant titled “Multi-scale Computational Non-destructive Evaluation (NDE) for Composites”.
- Converted a Matlab Distributed Point Source Method simulator into C++ and parallelized it to run on the lab’s 40 core in-house high-performance computer. **(C++, OpenMP, Armadillo)**
- The simulator is going to be used to generate training data for a machine learning algorithm that will be used to assess material integrity of the space vessel used in NASA’s proposed 2035 manned mission to Mars.

### **Mentor, Google Ignite CS**

April 2017 | Columbia, SC

- This was a one week initiative funded by Google where I and several other CS students went to a local high school and taught students how to build a browser-based game using javascript and HTML/CSS on a remote linux server. **(Javascript, HTML/CSS, Linux)**

### **Software and Characterization Technician II, Sensor Electronic Technology Inc.**

September 2011 - February 2017 | Columbia, SC

- Wrote an X-Ray Diffraction graph parsing tool to automate the analysis of III/V Nitride LED scans. **(Python)**
- Developed several tools used to automate complex data analysis and data entry tasks, increasing the throughput of the characterization lab and resulting in an estimated yearly savings of \$20,000. **(Python, Excel)**

### **Co-Founder and Web Developer, Olympus eSports LLC.**

April 2014 - May 2016 | Columbia, SC

- Website design and administration for a tournament hosting company started by myself and two partners. **(PHP, Javascript, MySQL).**
- Successfully hosted several of the largest **(150+ entrants)** Super Smash Bros. tournaments in the state.

## Education/Coursework

### **University of South Carolina | Columbia, SC**

- Computer Engineering, M.S. | 3.6 GPA **Expected Graduation:** Dec 2018  
~Focus area of systems engineering and high-performance computing
- Chemical Engineering, B.S. | 3.0 GPA **Graduated:** May 2015

**Relevant Coursework:** Artificial Intelligence(Prolog), Big Data Analytics(Hadoop, R), Algorithmic Design in Java, Digital Logic Design, Advanced Digital Design, Advanced Analysis of Algorithms, Computer Architecture.

## Technical Experience/Projects

**Maeve:** A text-based game engine with an architecture that harnesses Google’s protocol buffers. **(Rust)**

**Mips Processor:** Implemented a fully functioning MIPS CPU on the DE2-115 FPGA dev board. **(Verilog)**

**Chat App:** A web based chat application that supports concurrent socket connections. **(Go, Angular, Node)**

## Skills/Hobbies

**Languages:** English-Native, French-Fluent, Mandarin- Basic, Greek- Basic, German-Basic, Spanish-Basic

**Clubs:** Software Engineering club, ACM, Cyber Security Club