Jesse A. Wigfield

1584 Loranne Ave, Pomona, CA 91767 **jawigfield@cpp.edu** **(760) 793-9072**

Education

California Sate Polytechnic University, Pomona, CA. Graduating: December 10, 2016
B.S. in Electrical Engineering Overall GPA: 3.55/4.0 Core GPA: 3.94/4.0

Technical Skills

Software: C++, MATLAB, Python, Verilog, VHDL, P-Spice, SQL, SVN, Git, LabVIEW
Operating Systems: Windows, Linux, Mac OSX
Hardware: PCB Design, Microcontrollers, FPGA, DC & Stepper Motors, Oscilloscopes, Soldiering

Professional Experience

NASA Jet Propulsion Laboratory, Pasadena, CA. June 2016 – Present
Simulation and Support Equipment Division - Intern

- Working with experienced engineers, learning the fundamentals of spacecraft simulation & testing
- Studying aerospace standards, such as MIL-STD-1553, SpaceWire, and cPCI
- Delivering prototype support equipment and design reports for Insight and M2020
- Collaborating with engineers and customers to overcome objective changes during development
- Assisting regression tests of the M2020 Non-Volatile Memory card via cPCI bus

Campfire Alaska, Anchorage, AK. June 2015 - Aug. 2015

- Led a team of three youth counselors to remote Alaskan communities & hosted summer camps

China Lake Child and Youth Programs, Ridgecrest, CA. May 2009 - Sep. 2014

- Directed 10+ staff daily & created 3 new programs: Fix-It Club, Rock Wall Club, Paintball Club

Projects

NASA - Electronic Support Equipment for M2020 motors Aug 2016 - Oct. 2016

- Engineered hardware and user interfaces to control and protect flight hardware during testing
- Drew PCB designs and schematics for review and assembly of equipment
- Completed a design that passes Failure Modes & Effects Analysis

NASA - Spacecraft Simulation Auto-Coder May 2016 - Aug. 2016

- Developed Python algorithms to query SysML spacecraft models for specific components
- Established an SQL database of custom components with user interface
- Auto-coded simulation initialization with matched components and their interconnections

IEEE - Micromouse Autonomous Maze Solving Robot Sep. 2105 - May 2016

- Designed and tuned a PID control algorithm using C++, DC motors, and an Atmel microcontroller
- Taught embedded programming in C++ to new members of IEEE

Senior Capstone - RF Range Finding Sep. 2105 - May 2016

- Implemented Silicone Instruments RF transmitters and receivers to determine distances
- Utilized PIC microcontrollers, oscilloscopes, spectrum analyzers, and band pass filters

FPGA - VHDL Trigonometric Calculator Feb 2016 - Apr. 2016

- Designed a sine/cosine calculator using the CORDIC algorithm on a Spartan 3 FPGA
- Accomplished multiplication and division with structural arrays of adders

MATLAB - Artificial Intelligence Methods R&D Sep 2015 - Dec 2015

- Used MATLAB to study the effectiveness and utilization of the A* graph traversal algorithm
- Completed an algorithm that can solve mazes and illustrate the fastest possible solution

Personal Achievements

Boy Scouts of America - Eagle Scout Feb. 2002 - Jan. 2009

- Orchestrated troop meetings, camp-outs, hikes, and community service events for troop 848