Jesse A. Wigfield

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Education

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

Technical Skills

Software: C++, MATLAB, Python, Verilog, VHDL, P-Spice, SQL, SVN, Git, LabVIEW
Hardware: PCB Design, Microcontrollers, Spartan 3 FPGA, 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
- Delivering prototype support equipment for Insight and M2020 under strict mission time-lines
- Adapting to variable design constraints while striving for the most robust design possible

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

- Led a team of three youth counselors to remote Alaskan communities
- Taught the children swimming skills, cold water safety, and life skills

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

- Directed a staff of 10-20 counselors in youth development programs
- Created three new youth clubs: Rock Wall Club, Paintball Club, and Fix-It 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 the Failure Modes & Effects Analysis, ahead of schedule

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

- Developed Python algorithms to Query SysML spacecraft models for components
- Coordinated algorithms for component matching utilizing an SQL database of JPL components
- 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++ and an Atmel microcontroller
- Provided precise control of two synchronized DC motors
- 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, oscilloscope FFT, and band pass filters

Spartan 3 FPGA - VHDL Trigonometric Calculator Feb 2016 - Apr. 2016

- Designed a sine and cosine calculator using the CORDIC algorithm
- Accomplished multiplication and division with structural arrays of adders

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