

# JOSEPH GIBSON

## COMPUTER ENGINEER

### EDUCATION

#### B.S.E, Computer Engineering Grand Valley State University

Allendale, MI

August 2015

GPA: 3.957 *Magna Cum Laude*

- ASEE CEED National Co-op Student of the Year 2014
- Academic Excellence Award in Computer Engineering
- Outstanding Co-op Student 2015
- Outstanding Senior in Computer Engineering 2015
- FIRST Robotics Engineering Scholarship
- Award for Excellence Scholarship
- Faculty Award of Distinction Scholarship

- Tau Beta Pi Engineering Honor Society
- President of Spanish Club
- President and Founder of Brewing Science and Technology Club
- Vice President of Hardware, Computer Science Club

### SKILLS



Git version control	FPGAs (VHDL & LabVIEW)
Unix Terminal (gdb, make, etc.)	Electrical schematic and PCB design (Altium, Eagle, KiCad)
LaTeX	design (Altium, Eagle, KiCad)
Algorithm optimization	SPICE Simulation (LTspice)
Hybrid computing systems	Oscilloscopes and mutimeters
Adobe Illustrator	Space Systems and Telescopes
ARM assembly language	Ruggedized Computers
Perl, Awk, Sed	Avionics Systems
HTML, CSS, PHP	Embedded System Design
JavaScript, jQuery	Regulator Design
Operating Systems concepts	Robotics
Cryptography concepts	Circuit Analysis
Network Security concepts	Astrophysics and Cosmology
TCP/IP Networking & Data Comm.	Electromagnetic Physics
Wireshark and packet logging	Particle Physics

### LANGUAGES



### EXPERIENCE

#### NASA

Washington, D.C.

*Goddard Space Flight Center*

*Flight Software Engineer, HFCS/SSCO*

2016 - Present

Restore-L and Asteroid Redirect Mission

Develop critical flight software in C and C++ on FPGAs

Optimize critical algorithms and hardware floating point math unit

Create and lead Security and Reliability Group (SRG) in charge of coding standards, static analysis, and cybersecurity

#### RFCx

San Francisco, CA

*Rainforest Connection*

*Senior Technical Advisor*

2015 - Present

Combat illegal deforestation in Brazil and other rainforests with repurposed solar-powered Android phones mounted to trees

Remote detection of chainsaws, engines, and gunshots

Microcontroller software in C, solar power control, and PCB design

#### CERN

Geneva, Switzerland

*European Center for Nuclear Research*

*Research Assistant, ATLAS Experiment*

2014 - 2015

Research in quantum chromodynamics & proton-proton collisions at Large Hadron Collider (ATLAS Experiment)

Developed Spectrum physics plotting software in C++ and Python

Designed website [spectrum.web.cern.ch](http://spectrum.web.cern.ch)

#### NASA

Washington, D.C.

*Goddard Space Flight Center*

*Computer Engineering Co-op, BETTII Project*

2014

*Code 665: Astrophysics, Observational Cosmology Laboratory*

BETTII Project: <http://asd.gsfc.nasa.gov/bettii/>

Interfaced with stellar image processing software in C and C++

Developed StarTracker software for Star Cameras

Created an RS-422 communication network on an FPGA

#### L-3 Communications

Grand Rapids, MI

*Avionics Systems*

*Computer Engineering Co-op*

2013

#### Custom Electronics, Inc.

Grand Rapids, MI

*Engineering Consulting*

*Computer Engineering Co-op*

2011 - 2013

### INTERESTS

Languages, travel, culture, cryptography, computer security, mountain climbing, backpacking, hiking, brewing, physics