

Joshua Manela

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EDUCATION

Michigan Technological University

Computer Engineering with a Minor in Mathematics, Expected Graduation: Fall 2015, GPA 3.74

EXPERIENCE

Software Development Engineering Intern, Amazon

August 2014 - Present

- Thorough preparation of software design with rigorous design evaluations, while managing time in an Agile environment.
- Implementation of RESTful APIs which call a NoSQL database.

Student Researcher, Michigan Technological University

September 2013 - Present

- Designed peripheral hardware for a robotic quadcopter to survey highways and bridges.
- Developed various SLAM (Simultaneous Localization and Mapping) algorithms.
- Reconstructed a real-life bridge after having been flown over by a drone, using custom hardware and SLAM algorithms.

Student Researcher, University of Miami, Department of Psychology

Summers of 2009, 2010

- Using the LabView DAQ toolkit, for studying vein and artery expansion and contraction due to varying stress levels.
- Software was required to analyze visual data from a ultrasound machine to study the radial dimensions.

Software and Controls Engineering Co-op, Mercury Marine

January 2013 - August 2013

- Wrote MatLab code to analyze engine knock data and isolate specific knock frequencies.
- Extensive use of Simulink to modify and update Engine Controller Code.
- Soldered, crimped, designed, and built engine harness for production and test designs.
- Wrote CAN, RFID, and IO libraries in C for an ATMEL AT90CAN128 processor to be used in security applications.

Robotic Simulation and Programming Intern, Applied Manufacturing Technologies

Summer 2012

- Layout and simulate industrial robots using the Delmia I-GRIP CAD/Sim Package.
- Collaborate with other Simulation Engineers and wrote macros to improve CAD and simulation speed.

Resident Assistant, Michigan Technological University

August 2013 - April 2014

- Plan and organize hall activities and programs.
- Help out students get accustomed to the college lifestyle.
- Monitor hall and respond to situations in the residence halls to get them under control.
- Write concern reports, warning reports, and incident reports as necessary.

Lead Instructor, The Robot Garage

June 2011 - August 2012

- Wrote K-12 curriculum and led robotics classes and camps for the robot garage.
- Focused on the integration of mechanical and software design.
- Created the "Sumo Bot" stand-alone customizable robotics system still in use today.

Skills

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|-------------------------|-------------------|-----------------------------------|--------------------------|
| • C/C++/Assembly | • MatLab/Simulink | • Tektronix O-Scope | • Embedded Design |
| • Java/Visual Basic.NET | • LabView/NXT-G | • Electrical Hardware Fabrication | • Frequency Analysis |
| • FANUC | • Public Speaking | • Teaching | • Curriculum Development |
| | • Leadership | | |

Other Activities and Certifications

- Mentored multiple FIRST Robotics teams, including 2586 Copper Bots, 2194 Fondy Fire, and 27 Team RUSH
- CPR, AED, and First Aid Certified
- PADI Open Water Certification (certified scuba diver)