Alfredo Monzalvo Jr.
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Objective

To secure a full-time position in the field of electrical engineering starting in January 2018 where I will apply my knowledge and experience in electronics, critical thinking, and leadership.

Education

Georgia Institute of Technology, Atlanta, Georgia **Aug 2013 – May 2016**
Bachelor of Science in Electrical Engineering
- Overall GPA: 2.88, Major GPA, 3.00

Work Experience

Paranoia Quest, Buford, Georgia **Aug 2016 – June 2017**
Electrical Engineer
Dmitry Mikhaylov, CEO & Supervisor: (770) 527-1285
- Designed, wired, tested, and fixed microcontroller circuits used for the puzzles
- Programmed ATmega328 and LPC1768 microcontrollers in C/C++ and incorporated them with auxiliary drivers and sensors
- Protocols used include I2C, SPI, and RS-232
- Managed BOM and component ordering
- Interviewed, trained, and mentored junior engineers and shared my skills with them
- Examples of components used: infrared sensors, reed switches, 4 pole 4 throw switches, LED, servo, RFID, and push buttons

Wi-Sense, Atlanta, Georgia **April 2016 – August 2016**
Electrical Engineer Intern - Design Engineer
Dr. Krishna Naishadham, CEO & Supervisor: (978) 621-4523
- Tested and soldered circuits, analyze and modify circuit diagrams, and research on various oscillator circuits
- Built and simulated oscillator circuits from 100 to 1000 MHz in Multisim using operational amplifiers and comparators
- Soldered oscillator circuit boards based on schematics and product manuals
- Measured, inspected, and recorded circuit board components before soldering to verify product reliability and completeness
- Tested the functionality and accuracy of oscillator circuit boards after soldering was completed

Universal Body Shop & Collision, Doraville, Georgia **Summers 2010 – 2015**
Assistant manager
Sergio Monzalvo, CEO *& Supervisor: (404) 384-4229*
- Provided quality customer service daily by effectively communicating with customers and ensuring their satisfaction
- Maintained effective communication with the company's business partners
- Supervised the production of the shop and the maintenance of the building, and ensured that all needed materials were available
- Received and inspected incoming inventory, and verified that all incoming parts were correct and complete
- Delivered finished work to customers, and inspected the work to verify that quality standards were met before delivery

Research Experience

Electromagnetic Effects on Biofilm Formation, Atlanta, Georgia **May 2015 – May 2016**
Faculty Advisor: Dr. William Hunt: (404) 273-1654
Georgia Institute of Technology
- Conducted research on antennas, transmission lines, and the electromagnetic effects on the impediment of biofilm formations
- Designed, simulated, and constructed super high frequency antennas and transmission lines using Microwave Office
- Analyzed the simulation: s-parameters, impedance matching using smith charts, antenna gain, and radiation patterns
- Soldered and tested with network analyzers a successful 5.8 GHz and 10 GHz patch antennas based on my designs

McCarty Labs at Emory Children's Center
- Conducted microbiological assays to study the effects on biofilms from the antennas I've designed
- Familiarized with microbiological tools including pipettes, incubators, centrifuges, and microtiter plates
- Properly handled acids, anti-biotics, 0.1% crystal-violet, bacteria, and lysogeny broth
- Interpreted and analyzed data collected from VersaMax Microplate Reader's BCA Protein Assay Analysis

Projects

NASA USLI Competition, Georgia Institute of Technology, Atlanta, Georgia **Aug 2015 – May 2016**
Sub-Team Leader – Avionics Section
Faculty Advisor: Dr. Eric Feron
- In charge of the electrical operations of the avionics section of the launch vehicles
- Conducted researched on relevant sensors, including GPS, altimeters, and accelerometers
- Designed a prototype of the avionics bay of the launch vehicle using Solidworks, which was 3-D printed
- Designed, built, and tested the printed circuit board and soldered all the required components used for the avionics bay

- Incorporated the sensors and servos into the design of the printed circuit board
- Created weekly assignments and goals for team members, and checked their work quality and correctness
- Mentored team members on electrical engineering questions or concepts

Senior Design: Autonomous Quadcopter, Georgia Institute of Technology, Atlanta, Georgia **Aug 2015 –May 2016**
Team Leader
Faculty Advisor: Dr. Jennifer Hasler

- Designed, soldered, and tested the printed circuit board used to control the charging station
- Designed unique battery connectors using Solidworks, which were 3-D printed and implemented on the final prototype
- Facilitated communication between all team members so that all ideas were exposed and listened to
- Organized and manage the project by identifying the tasks, skills, time, and materials required to complete the project
- Formed Gantt charts and Pert charts to help monitor the progress, problems, and deadlines of the project

Skills

Hardware: Network Analyzer, Oscilloscopes, Multimeters, RLC Meters, Waveform Function Generators, VersaMax Microplate Reader
Software: Multisim, Advanced Design System, 4nec2, NI MyDAQ, LTSpice, Mathcad, Pspice, Quartus, Microsoft Office Suite
Programming: C++, C, Matlab, Labview, VHDL
Operating Systems: Linux OS, Windows OS, Mac OS

PCB Hardware: Solder iron, hot air station (SMD), solder paste, flux, and solder wick
PCB Design: CadSoft Eagle, Microwave Office
3D Printing Software: Solidworks, SketchUp, Cura
3D Printing Hardware: MonoPrice Select 3D printer

Spoken Languages: English (Native), Spanish (Fluent)