

Alexander W. Wende

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University at Buffalo, the State University of New York
Bachelor of Science in Electrical Engineering G.P.A. 3.2/4.0

May 2013

WORK EXPERIENCE

Xerox Corporation, Webster NY

July 2013 – Present

Junior Electrical Engineer - Specialty Sensors Group

- Designed and implemented the hardware and software for automated sensor test boxes using the Teensy 3.1.
- Solving various xerographic and electrostatic problems in current machines.
- Developing new technologies for missing jet detection for aqueous ink.

Campus Dining and Shops, Amherst NY

September 2012 – May 2013

IT Hardware Technician Intern

- Installed LCD TVs, iPad kiosks and security cameras, repaired security cameras and network switches.

University at Buffalo, Amherst NY

September 2012 – December 2012

Electronics Laboratory Student Assistant

- Worked in the electronics lab to keep students focused, and provided assistance when their circuits did not function properly.

UNIVERSITY PROJECTS

- **Proofing Ground for Power Control and Optimization – Project for Communication Electronics Design** **Spring 2012**
An intelligent power supply to simulate the power generation in orbit for the UB Nanosatellite, GLADOS.
- **Satellite Solar Panels – Independent Study for the University Nanosatellite Program** **Spring 2012**
Fabricated solar panels using Triangular Advanced Solar Cells for power generation of GLADOS.
- **Electromagnetic Levitator – Final Project for Electronic Instrument Design** **Fall 2011**
Designed an attractive electromagnetic circuit to suspend a magnet in the air using a Hall Effect sensor.
- **Donkey Kong – Final Project for Intro to Microprocessors Lab** **Spring 2011**
2000 line ARM assembly game for the LPC2138 microprocessor
- **Multistage Amplifier – Final Project for Electronic Circuits Lab II** **Spring 2011**
Designed a three stage amplifier with matched impedances for a high gain, high bandwidth amplifier
- **LED Color Organ – Optional Final Project for Electronic Circuits Lab I** **Fall 2010**
Utilized active band pass filters to light up different LEDs based on the frequency of an audio signal.

PERSONAL PROJECTS

- **Nixie Tube Clock** - A Wi-Fi enabled clock using vintage vacuum tubes that automatically syncs the time daily.
- **PCB Business Card** – An Arduino business card circuit board example of my hardware and software skills.
- **Plasma Speaker** – Generates high voltage from a flyback transformer to ionize the air and play music through the arc.
- **Audio Modulated Tesla Coil** – Class-E tesla coil utilizing AM modulation to play music through a 2 inch corona.
- **Reflow Oven** – Quickly solder surface mount devices using an infrawave toaster oven and PID control system.
- **Automatic Screen Rotator** – Utilizes a gyroscope sensor to sense screen rotation and microcontroller to change video output.
- **“Stun Gun”** – second circuit board designed in high school that generated a square wave signal, stepped up to ~1800V at 1mA.
- **Other Projects** –Constant current/power dummy load, pocket headphone amplifier, FM transmitter.

ACTIVITIES

- Member of the power, and electrical ground support subsystems for the University Nanosatellite Program, GLADOS.
- Worked on a team to build and launch a payload for high altitude ballooning.
- Lead circuit board design and soldering skills workshops for the University at Buffalo’s IEEE Student Chapter.
- Worked on a team to build a battle robot as part of the university’s “Engineering Week” competition.
- Competed in a 24-hour hackathon competition, building a home automation system based around the Raspberry Pi®.
- Designed the electrical hardware and software for an automatic cat feeder to help a wheelchair bound woman.

COMPUTER LANGUAGES AND SKILLS

- C/C++, Python, Processing, MATLAB.
- Excellent understanding of Altium and CadSoft EAGLE, Orcad PSPICE, NI Multisim, NI LabView, SketchUp, and Microsoft Office.
- Excellent troubleshooting skills, circuit board layout and fabrication since 2007, skilled in SMD and PTH soldering.