Beryl Marie Wootton

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Education

BS in **Electrical Engineering** and BS in **Mathematics**, May 2012
New Mexico Institute of Mining and Technology, Socorro, NM.
Notable Coursework: Microcomputer Interfacing, Mathematical Modeling, Digital Signal Processing, Embedded Control Systems, Microcontrollers, and Complex Analysis.

Skills

Embedded Design/Hardware

Multi-layer PCB design using P-Spice, Multisim, Ultiboard, Altium, and Protel.
PCB assembly from copper-clad laminate to completed product using LPKF router, laser cut solder stencils, reflow oven, and soldering equipment.
Parts selection and ordering, parsing datasheets to determine best-fit components.

Programming/Data Analysis

Embedded programming using assembly, HDL, and C.
Protocol experience including I2C, SPI, SPIFI, and RS-232.
Data/statistical analysis with MATLAB, Maple, LabVIEW, and Python.

Communication/Interpersonal Skills

Strong technical writing skills developed over years using tools like Microsoft Office (MS Word, MS Excel), LaTeX, and video editing software.
Organized habits through experience with inventory management and version control (Git, SVN).
Presentation experience from design courses, competitions, and technical conferences/symposiums using Microsoft PowerPoint, Prezi, or simply talking in front of an audience.
Friendly personality with the desire to help others, work hard, design cool stuff, and create a positive work environment.

Employment

Self-Employed — *Electrical Engineering Consultant*
Gresham, OR — **June 2012 - Feb 2013**
Worked on various design projects (aiding in design, building, and testing), including: a control board for servos/stepper motors, a custom PCB to interface with and power an industry-standard non-contact pyrometer, and a multiplexer designed to accept various existing protocols employed in clients' applications and transmit the data to a PC.

New Mexico Tech EE/Math/ChemE Depts. — *Teaching Assistant - Tutor*
Socorro, NM — **August 2009 - June 2012**
Taught digital electronics, circuits, and MATLAB labs. Provided tutoring for lower-level EE classes (Circuits, Analog/Digital Electronics, Electricity & Magnetism, etc.). Graded in the EE and Math departments, including Calc I and II, Linear Algebra, Probability & Statistics, and Intro to EE.

Other Experience

Team Projects

Senior Design: Designed and built a **remote-controlled robot** capable of navigating the LANSCE particle accelerator at **Los Alamos National Laboratory** in order to detect problems within the beam tunnel. As a "mini-project", designed and built a 1kHz **infrasound data logger** to sample acoustic data resulting from a lightening flash and record it using a standard serial port (RS 232).
Junior Design: Designed and built an **autonomous robot** capable of navigating a predefined obstacle course, locating objects that contrasted with the environment. Alone, designed and built an **ultrasonic beacon** used for localization.

Personal

International: Lived in **Germany** for 1.5 years as an exchange student at Universität Potsdam.
Music: Play **multiple instruments**, and in college conducted an orchestra that played personal arrangements of quality music from video games.

Volunteering

***PSU Electronics Prototyping Lab**:* Currently help students and Portland community members complete projects using lab machines (PCB milling machine, reflow oven, 80 watt laser cutter, 3D printer, soldering equipment, drill press, shear/press break, etc.).
***New Mexico Supercomputing Challenge**:* Taught elementary school children the basics of agent-based modeling using the programming language StarLogo.
***Science Olympiad**:* Taught circuit analysis and concepts of electricity to middle school children.