Colton Crivelli

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Education

California Polytechnic State University, San Luis Obispo
Major: Electrical Engineering
Year: Senior (Graduating June 2015)

Coursework

- Digital Electronics & Integrated Circuits
- Computer Design & Assembly Language
- Electronics Manufacturing
- µProcessor Based Systems Design
- Electronic Design/Adv. Design
- Mechatronics
- Real-Time Embedded Systems
- C++ Programming: Problem Analysis

Professional Experience

6/14 – 9/14 **Hardware Engineer Intern, Throne, Google Incubated** *San Luis Obispo*

- Designed a noninvasive pulse sensor according to employer's specifications, developing creative problem solving skills
- Researched heart-rate monitoring technology in a group setting, to create a functioning prototype capable of collecting data such as heart rate, in BPM.
- Created an innovative prototype in a self-motivated, help-yourself setting

Academic Projects

In Progress **Current Input Protection Circuit** *Senior Project*

- Creating a current limiting protection circuit between a DC-DC converter and an inverter

1/15-3/15 **Continuous-Time Delta-Sigma System** *Adv. Analog Electronics*

- Noise shaping with a 2nd order type-II feedback loop

1/15-3/15 **PID, Sensor Based, Motor Control System** *Mechatronics*

- Interfaced with motor drivers using C++ classes, tasks, and ISR's using a RTOS on an ATmega1281

9/14-12/14 **Ultrasonic TX/RX Lux Meter** *Electronic Design*

- Current based light detector, frequency converter, 40kHz oscillator, Ask modulator, amplification stages, and PLL tone decoder

4/13-5/13 **Created a function generator using an Atmega328P microcontroller** *µProcessor Sys Design*

- Variable frequencies, duty cycles, and waveforms

4/13-4/13 **Interfaced an Atmega328P microcontroller with an LCD screen** *µProcessor Sys Design*

3/11-5/11 **Dual Power Supply Manufacturing** *Basic Electronics Manufacturing*

Personal Projects

9/14-10/14 **Created an IR remote controlled 555 based LED dimmer**

- Explored PWM, the Arduino Nano, and 555 internals

8/14-9/14 **Capacitance based level sensing**

- Utilized PDM to convert change in capacitance to change in voltage

4/13-6/13 **6X6 LED cube**

- Minimized use of GPI/O pins using multiplexing, used an Atmega2560 to control 216 LEDs

1/12-3/12 **Atmega328P microcontroller**

- Created layout in Eagle, reverse-engineered a laminator to aid in layout transfer, drilled and soldered components

Skills

- Experienced with electrical testing, data sheet reading, and measurement equipment such as multi-meters, oscilloscopes, function generators, DC power supplies, breadboards, soldering and trouble shooting
- Experienced with LTspice, C, and C++; novice in assembly, MatLab, and VHDL
- Proficient with MS Word, Excel, PowerPoint, MAC OS X, Windows, and Linux
- Well organized, experienced in technical writing, emails, and memos; strong people, team, speaking, and leadership skills; attentive to detail