William J. Snow

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OBJECTIVE To design and test hardware, to develop software, and to problem solve my way through exciting projects and collaborative environments that challenge me

EDUCATION

B.S., Computer Engineering May 2014
Purdue University, West Lafayette, IN

PROJECTS

Chance the Rapper *Freelance* September 2016
- Served as lead engineer for costume electronics on Chance the Rapper's *Magnificent Coloring Tour*
- Developed software in C++ using Arduino toolchain to display lighting effects on 366 sewn-in LEDs

Jeco Plastic Products *Consultant* June-August 2016
- Designed temperature monitoring system using Raspberry Pi boards and web app interface
- Programmed in C for thermocouple driver and unix socket API, Javascript for Node web app

Pricesourcing.com *Lead Developer* July-October 2013
- Prototyped a front and back end for vendor-to-customer online aggregator
- Collaborated with a professional graphic web designer for UX and SEO
- Implemented scalable back end in PHP and MySQL

Target Acquisition and Retrieval *Senior Design Lab* Fall 2013
- Automated embedded system found targets and directed crane to retrieve them one at a time
- Devised a custom bidirectional serial bus for all subsystems using commodity TTL parts and PLDs
- Utilized a live NTSC signal from CCD camera sensor converted to digital x-y coordinates
- Drove stepper motors to move crane and pick targets with electromagnet

Safecam *Embedded Systems Lab* Spring 2014
- Consumer home safe fitted with keypad and camera that connects to home wifi network
- Interfaced electronic keypad and camera to Raspberry Pi development board
- Provided web user interface with programmable key code and photo capture

MIPS Dual Core Microprocessor *Computer Architecture Lab* Fall 2013
- Synthesized MIPS ISA subset onto Altera Cyclone II FPGA development board
- Implemented 2-way associative caches with write-back cache coherency and ll/sc atomic instructions
- Wrote full block level test benches as well as benchmarks measuring real world performance

Alarm Clock *Microcontrollers Lab* Fall 2012
- Freescale microcontroller (state machine loop w/ periodic interrupts) kept full calendar time
- Incorporated full peripheral suite (DAC, ADC, SPI, TIM)

Picture Frame Viewer *ASIC Design Lab* Fall 2010
- Digital ASIC converted bitmap images from SD card over SPI to LCD display over DVI
- Design and verification for interfaces, constraints, RTL, synthesis map, and layout

SKILLS

Commercial Software

Mentor Graphics (ModelSim, HDL Designer), Cadence (SOC Encounter, Virtuoso, OrCad Capture/Pspice A/D), Synopsys Design Compiler Ultra, Altera Quartus II, EagleCAD, Altium Designer, Freescale Codewarrior, TI Code Composer Studio, Arduino IDE, Matlab, Catia V5

Languages

C, C++, Java, VHDL, Verilog, ABEL, Assembler (x86, MIPS & 68HC11), ksh93/bash/tcsh, Python, PHP, Javascript, Go, Ruby

AWARDS

Eaton Award for Best Senior Design
Semester Honors Fall 2013 and Spring 2014