JOSHUA PHILPOTT

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Objective

Computer Engineering student seeking a technical internship in Computer Science and Engineering.

Education

University of South Florida – Pursuing B.S. in Computer Engineering – 3.5 / 4.0 GPA – Expected Graduation: May 2015

Experience

Engineering Intern – Jet Propulsion Laboratory (NASA/JPL/Caltech) – Pasadena, CA – January - August 2013

Extended ISAAC, an FPGA-based instrument computing and control platform. Designed and implemented a direct digital synthesis based sinusoidal waveform generator. Enhanced a wxPython-based GUI for instrument telemetry and control. Developed standards and hardware for a modular instrument bus. Analyzed Xilinx build procedures in order to optimize FPGA project packaging. Collaborated with JPL researchers and interns on proposals for future projects.

Sound & Light Technician – Marshall Student Center – Tampa, FL – May 2012 – Present

Responsible for A/V production on events seating up to 1200 people. Setup a variety of equipment including: professional lighting fixtures, trussing, soundboards, speakers, and microphones. Collaborate with clients to ensure quality events in a fast-pace production environment. Troubleshoot problems with client's equipment.

Relevant Courses

Computer Systems Design – FPGA design, system-level design, component design, hardware/software tradeoffs

Control of Mobile Robots – MC9S12 microcontroller, sensor interfacing, maze-solving algorithms, LCD control

Operating Systems – UNIX programming, memory allocation, process cycle, concurrent programming techniques

CMOS –VLSI – static and dynamic CMOS design and theory, simulations, manufacturing principals

Skills

- Linux / UNIX
- FPGA Design
- C / C++
- Java
- Python
- HTML / CSS
- CMOS Design
- Robotics
- OS Concepts
- Wordpress
- Django
- Arduino / MC9S12

Selected Projects

CMOS Temperature Sensor Interface — Designed and constructed an ASIC to interface a temperature sensor with a seven segment display. Modules include a serial-to-parallel interface, conversion from Celsius to Fahrenheit, binary-to-BCD, and BCD-to-seven segment. Successfully simulated complete design in padframe. ASIC was sent for manufacturing.

Custom UNIX Shell — Built a custom UNIX shell in C. The shell has the ability to execute internal and external programs, I/O redirection, and piping. Implemented a number of UNIX programming concepts such as fork() and exec().