BRIAN KELLEY

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Senior computer engineer seeking a digital hardware design internship starting in Summer 2012.

Videos & Project Details:
www.realmb.com/portfolio

EDUCATION

Purdue University, West Lafayette, Indiana (Winter 2012 [est.])
Bachelor of Science in Computer Engineering, Senior, GPA: 3.36
Selected Coursework: Computer Architecture & FPGA Prototyping, ASIC Design Laboratory, Microprocessor Systems, Digital Systems Design, Data Structures, Advanced C Programming, Compilers
Coursework to be Completed by Summer 2012: ASIC Fabrication, Senior Design, Operating Systems
Computer Skills: Detailed experience with VHDL, Mentor Graphics ModelSim, MIPS/Freescale Assembly, C (Desktop and Embedded), C++, Java, C#, Python, Perl, ANTLR, OrCAD Capture/Layout, Linux, Version Control Systems, MS Office.

SCHOOL PROJECTS

ASIC Fabrication (Spring 2012/Fall 2012)
Designing an ASIC to be fabricated over Summer 2012; will fully test and verify in Fall 2012.

Senior Design (Spring 2012)
Designing a touchscreen driver display for a solar car.

Computer Architecture & FPGA Prototyping (Fall 2011)
Designed a dual-core, pipelined, MIPS-based processor with cache for an Altera FPGA.

ASIC Design Laboratory (Spring 2011)
Designed an oscilloscope chip with a signal processor and graphical output.

PROFESSIONAL EXPERIENCE

National Instruments (Summer 2011)
Computer Engineering Intern, High-Speed Digital I/O R&D
Researched, designed, implemented, and tested new features for an existing digital data acquisition device driver.

- Wrote specifications for new features based on customer requests.
- Designed code for driver support of a new product's features.
- Wrote and executed a thorough automated test plan for the newly implemented features.
- Worked with other engineers to debug problems in time for a product launch.

Technicolor (Fall 2009, Summer 2010)
Computer Engineering Co-op, Multi-Client Solutions R&D
Responsible for developing software solutions to ease product deployment.

- Created a system to automate license approval, signing, and tracking using Java and public-key cryptography.
- Designed and implemented a secure automatic update program for Linux servers and Technicolor software.
- Redesigned software installation procedures to accommodate a wider range of hardware configurations.

ACTIVITIES

Purdue Solar Racing (Fall 2008-present)
Lead Programmer/Former Electrical Team Director
Responsible for designing, assembling, programming, and troubleshooting a solar car's electrical and computer systems.

- Led a team of engineers in designing and implementing the electrical and control systems of an electric vehicle.
- Conducted hardware and software design reviews.
- Designed circuit boards responsible for telemetry and battery protection utilizing Microchip microcontrollers.
- Designed a microcontroller networking protocol and firmware library based on CAN (Controller Area Network).
- Documented engineering procedures, vehicle electrical systems, and communication protocols.
- Attended public outreach events to promote science and engineering and the use of renewable energy.
- Created partnerships with companies to fund the creation of a solar car.