

ROBERT CLIFTON BUCHANAN

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EDUCATION

University of Wisconsin – Madison, May 2015

Computer Engineering, Computer Science, Math

Bachelor of Engineering, 3.23/4.00

Selected School Projects (and Technologies Used)

- ANTLR-based compiler for a C-like language (Java, ANTLR)
- Pipelined Verilog implementation of RISC processor with simple assembler (Verilog, Python)
- Best performing global router in Digital Design Automation class (C++)
- Senior design: game implemented with custom PCB and microcontroller (C, FreeRTOS)

WORK EXPERIENCE

WiRover Inc (January – May 2015), Madison WI

Student Software Consultant (part-time)

- Python service to manage consumer cellular cards in embedded Linux environment
- Tricky network configuration to redirect traffic to remote proxy service

MapR (June – Aug 2014), San Jose CA

Software Engineering Intern

- Implemented collection of database statistics to improve query optimization
- Created d3/Javascript interface to examine execution statistics for distributed query
- Resolved issues on community-driven open-source project (Apache Drill)

Extreme Engineering Solutions (Jan – Aug 2013), Middleton WI

Associate Embedded Engineer

- Authored, ported, and debugged power-on self-tests in a UEFI test framework
- Debugged customer-driven support issues related to BIOS/OS hand-off
- Extended and maintained test automation suite for automated product testing
- Analyzed and automated analysis of nightly reliability testing

PROGRAMMING LANGUAGES

Java: Hadoop ecosystem development, **Python**: automation and data analysis, **C/C++**: embedded and POSIX development, **Javascript/jQuery**: front-end web development, **HTML/CSS/Bootstrap**: web interface design, **Bash**: automation and text processing, **Matlab**: numeric programming.

COMPUTER SYSTEMS

Linux: development and non-professional system administration, **UEFI**: debugging and development, **VxWorks (x86)**: boot-related assembly, **Embedded ARM**: development with assembly and FreeRTOS

DIGITAL DESIGN

Verilog (Modelsim and Icarus): standard-cell designs, **Quartus II**: FPGA designs

OTHER COMPUTER SKILLS

(L)A^TE_X: technical typesetting, **Excel**: data analysis, **Inkscape/Gimp**: graphics processing