

ROBERT CLIFTON BUCHANAN

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EDUCATION

University of Wisconsin – Madison

Computer Engineering, Computer Science, Math
Bachelor of Science May 2015

Selected School Projects

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

WORK EXPERIENCE

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
- Analysed and automated analysis of nightly reliability testing

Advanced Micro Devices (Jan – May 2012), Austin TX

Co-op Engineer

- Designed and maintained several test-chip yield/performance reports
- Used automated design flow to synthesize, place, and route a JTAG interface on a test-chip
- Assisted with the debug of a similar circuit using a gate-level model and virtual tester
- Prepared two technical presentations for peers and middle-management

PROGRAMMING LANGUAGES

Java: Hadoop ecosystem development, **Python:** automation and data analysis, **C/C++:** embedded and POSIX development, **Tool Languages (sh, sed, awk):** automation and text processing, **TCL/Expect:** test automation and design tool configuration, **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