

Jake Albert

<https://jakealbert.com>

jake.albert@gmail.com

■ Interests

Automation, silicon design/debug, systems programming, web development, reverse engineering, information security, audio/video processing.

■ Technical Skills

OS: Linux, Mac OS X, Android, iOS

Systems: C, ARM and AArch64 assembly, x86 assembly

Scripting: Bash, Tcl, Expect, Python, Ruby, AppleScript, Elisp, Perl

Web: Ruby, JavaScript, CoffeeScript, React, jQuery, PHP, HTML, CSS

General: Clojure, Java, Objective-C, Racket, OCaml, Matlab

Data: SQLite, MongoDB, Elasticsearch, PostgreSQL, RabbitMQ

Tools: Emacs, Make, AWK, LLDB, DTrace, Puppet, LaTeX

Version Control: Git, Perforce, Subversion, Bazaar

Protocols: JTAG, I2S, HDMI, SPDIF, UART, I2C, SPI, USB, PCIe, NVMe, DDR2

■ Education

Brown University – Providence, RI

Computer Engineering B.S.

September 2007 - May 2011

Data Structures & Algorithms, Software Engineering, Operating Systems, Computer Security, Multi-processor Synchronization, Neural Modeling, Analog Circuit Design, Digital Circuit Design, Computer Architecture, Embedded & Real-Time Software, Embedded Microprocessor Systems Design, Communication Systems, Signal Processing

■ Experience

Apple, Inc. – Cupertino, CA

Silicon Validation Engineer

August 2011 – Present

System-on-Chip IP testing and validation in pre- and post-silicon environments; developing directed tests, test automation infrastructure, and silicon debug tools.

Brown University – Providence, RI

Undergraduate Engineering Teaching Assistant

September 2010 – May 2011

In-class TA for ENGN1630 “Digital Electronics Systems Design.” Taught digital logic, circuit prototyping, and hardware description languages. Held regular lab hours. Assisted students with designing and debugging circuits.

Undergraduate Computer Science Teaching Assistant

January 2009 – December 2009

In-class TA for CSCI0170/0180 “Computer Science: An Integrated Introduction.” Taught functional and object-oriented programming, data structures, algorithms, analysis. Worked closely with professors to develop pair-programming labs and problem sets. Work included grading homeworks, interactive project grading sessions, holding weekly office hours, and running lab sections.

Hudson River Sloop Clearwater – Beacon, NY

Web Developer and Designer

June 2008 – August 2008

Frontend and backend redesign for the non-profit organization. Integrated Salesforce member database with e-commerce solution using PayPal and Google Checkout APIs. HTML, CSS, PHP, MySQL, Joomla.

■ **Projects**

Tabs.fm – Social Sheet Music, 2011

Last.fm-powered guitar tab suggestions; Clojure, HTML5, CSS3, jQuery.

Netlets – Network-Enabled Power Outlets, 2011

Remote power monitoring and outlet switching; ARMv7 SoC, Linux, Busybox, XMPP, Clojure, Google AppEngine.

■ **Awards**

Sigma Xi – The Scientific Research Society, 2011

Tau Beta Pi – The Engineering Honor Society, 2010

Android Market Device Seeding Program – Top Android Market Developer, 2009