

# Jake Albert

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<https://jakealbert.com>

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## ■ 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