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## Summary

Passionate about working closely with talented designers and product managers to deliver beautiful, usable products that people love. Flexible full-stack mobile engineer who is comfortable working on features from back-end to iOS to Android (even in the same day). Interested in working with all embedded platforms, as well as limited-resource micro-controller environments. Only interested in positions in Seattle, WA, or full-time remote positions.

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## Education

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| 04/2008 | PhD in Electrical and Computer Engineering<br><b>University of California, Davis</b><br>Thesis: Energy Efficient Spontaneous Communication and Opportunistic Networking<br>GPA: 3.7/4.0      |
| 06/2006 | Masters in Electrical and Computer Engineering<br><b>University of California, Davis</b><br>Thesis: Using Mobility and Infrastructure in Opportunistic Wireless Applications<br>GPA: 3.7/4.0 |
| 06/2002 | Bachelor of Engineering, Electrical and Computer Engineering<br><b>University of Delaware, Newark, DE</b><br>GPA: 3.8/4.0 (Magna Cum Laude)  |
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## Professional Experience

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| 07/2015 -        | <b>Senior Software Engineer, Android NBC News Digital, Seattle, WA</b> <ul style="list-style-type: none"><li>• Design middleware API layer for accessing next-generation content warehouse</li><li>• Take ownership of HTML/Javascript-based story rendering templates<ul style="list-style-type: none"><li>◦ Used by both Android and iOS platforms</li><li>◦ Organize for modularity, testability</li><li>◦ Create basic build process and regression tests</li></ul></li><li>• Assist in iOS development tasks during peak iOS crunch times.</li><li>• Re-work outdated Android app architecture for testability, maintainability, performance<ul style="list-style-type: none"><li>◦ Schema-free data store for articles</li><li>◦ Decouple components and use consistent dependency management</li><li>◦ Consistent asynchronous code patterns using RxJava</li><li>◦ Move large amounts of codebase to more modern Kotlin language</li></ul></li></ul> |
| 02/2014 - 6/2015 | <b>Senior Software Applications Development Engineer Yahoo Inc, San Francisco, CA</b> <ul style="list-style-type: none"><li>• Created paint-style drawing module for stylized drawing.</li><li>• Built prototype home automation features into a new communications app.</li><li>• Contributed to bug-fixing and development in PHP backend.</li><li>• Launched a new household communications app.</li><li>• Core developer (Android/iOS) on a newly-formed team building Yahoo's next mobile products.</li><li>• Built a Storm-based prototype to auto-tag email images using a machine learning module developed by Flickr</li><li>• Developed travel estimate module in Aviate</li><li>• Developed calendar module in Aviate</li><li>• Worked closely with Aviate to refactor networking code for clarity and maintainability</li><li>• Implemented numerous UI improvements in Aviate.</li></ul>  |

05/2012 - 02/2014  
(Acquired by Yahoo)

*Member of Technical Staff* **Incredible Labs/Donna, San Francisco, CA**

- Developed distributed job-queueing system based on Redis
- Set up basic monitoring of machine health for cloud services using Nagios
- Reorganized code to encourage manageability and maintainability
- Restructured server-side database to reduce query overhead and cognitive overhead
- Created testing environment and tests that significantly reduced server code regressions
- Led the charge for improved coding consistency and process to improve release cycle speed
- Developed numerous server-side feature prototypes: chat engines, traffic incident reporting
- Designed the iOS API communications layer for server-side API communications
- Migrated server from MySQL to Postgres+Redis
- Made internal modifications to node-orm to provide functionality tailored for our use cases
- Developed adapter layer for 3rd party information systems for directions, geo-location, traffic
- Led the transition from VC-pitch prototype to released product
- Worked with company founders to develop Donna, a smart schedule/commute assistant

10/2010 - 04/2012

*Senior Software Engineer, Android* **doubleTwist Corporation, San Francisco, CA**

- Developed Podcast management features in the Android Player product
- Implemented support for UPnP and Airplay media streaming
- Implemented NFC-based doubleTap functionality, featured at Google I/O 2011
- <http://googlecode.blogspot.com/2011/05/doubletwists-adventures-in-nfc-land.html>
- Implemented sync engine UI on Meego-based tablet devices
- Perform power analysis tests to ensure battery-friendly behavior of application
- Improve readability and structure of a number of common code paths
- Contribute to feature completion and bug fixes for numerous on-schedule releases
- Assist with supporting users of the Android player
- Implement new UI from designer mock-ups

02/2009 - 10/2010

*Principal UI Architect* **Sentilla Corporation, Redwood City, CA**

- Work closely with graphic designers to create look and feel of product
- Drive the design of user-facing APIs based on UI requirements
- Design and implement visualization and configuration web application views

04/2008 - 02/2009

*Application Engineer* **Sentilla Corporation, Redwood City, CA**

- Designed and implemented an embedded energy management firmware.
- Designed and created Sentilla Labs for embedded computing projects
- Data visualization for wireless sensor platform data collection demo at JavaOne conference

09/2003 - 04/2008

*Graduate Student Researcher* **RUBINET, University of California, Davis**

- VMesh: Opportunistic information dissemination/retrieval using vehicles
- TinyAgent: Mobile code for wireless sensor networks
- Bluespots: Opportunistic content distribution via multiple network interfaces
- WiMo: Wireless mesh network with monitoring facilities

09/2007 - 12/2007

*Research Intern* **Thomas PRL, Paris, FR**

- Designed social opportunistic networking management protocol
- Implemented prototype as part of mobile social networking testbed
- Deployed prototype in conference setting to collect data
- Analyzed data to make inferences about mobile social network usage

09/2005 - 09/2006

*Research Assistant* **Sprint ATL, Burlingame, CA**

- Re-factored Opportunistic Communications Protocol implementation
- Designed news-feed management system
- Analyzed performance of news-feed management system

06/2005 - 09/2005

*Research Intern* **Motorola Labs, Schaumburg, IL**

- Developed an updated system for wireless sensor network group programming
- Collaborated on other WSN-related projects
- Designed small-scale hardware demo for corporate review

01/2005-03/2005

*Associate Instructor* **UC Davis Dept. of Electrical and Computer Engineering**

- EEC150A - Introduction to Signals and Systems
- Upper division undergraduate course
- Designed syllabus, all lectures, homework, exams

06/2001 - 07/2002

*Firmware/Driver Programmer* **Fingerworks, Inc. Newark, DE** (later acquired by Apple)

- Research prospective USB  $\mu$ controllers for HID
- Designed firmware code in C and assembly
- Created and managed Win32 interface drivers and libraries

01/1998 - 05/1998

*Research Assistant* **University of Delaware Mathematics Dept.**

- Edited and Revised mathematical proofs for a topology textbook.
- Formatted and proofread final working copy.

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## Other Professional Activities

- 2014 - Contracted to build Android Version of "Raven Repel", an augmented reality app to encourage wildlife conservation
- 2011 - Technical Editor, Android UI Fundamentals: Develop & Design (Develop and Design) by Jason Ostrander, PeachPit Press
- 2011 - Technical Editor, Android Programming by Chris Haseman, PeachPit Press
- August 2009 - Invited Peer Reviewer, IEEE/ACM Transactions on Networking
- July 2009 - Invited Peer Reviewer, IEEE International Workshop on Scalable Ad Hoc and Sensor Networks 2009

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## Publications

- Anna-Kaisa Pietilainen, Earl Oliver, Jason LeBrun, George Varghese, Christophe Diot. "MobiClique: Middleware for mobile social networking." SocialNets 2008
- Jason LeBrun, Chen-Nee Chuah, Supratik Bhattacharyya, Jean Bolot. "Management for Intermittently Connected Environments." MobiShare 2007
- Short Paper: Dhruv Gupta, Jason LeBrun, Prasant Mohapatra, Chen-Nee Chuah. "WDS-Based Layer 2 Routing for Wireless Mesh Networks." WinTech 2006
- Jason LeBrun, Chen-Nee Chuah. "Feasibility Study of Bluetooth-Based Content Distribution Stations on Public Transit Systems." MobiShare 2006
- Yang Yu, Loren Rittle, Jason LeBrun, Vartika Bhandari. "MELETE: Supporting Concurrent Applications in Wireless Sensor Networks." "Sensys 2006"
- Jason LeBrun, Chen-Nee Chuah, Dipak Ghosal. "Knowledge-Based Opportunistic Forwarding in Vehicular Wireless Ad-Hoc Networks." IEEE Vehicular Technology Conference, Spring 2005
- Joseph Anda, Jason LeBrun, Dipak Ghosal, Chen-Nee Chuah, Michael Zhang. "VGrid: Vehicular AdHoc Networking and Computing Grid for Intelligent Traffic Control." IEEE Vehicular Technology Conference, Spring 2005
- Leo Szumel, Jason LeBrun, John Owens. "Towards a Mobile Agent Framework for Sensor Networks." EmNets 2005

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## Patents

- Loren Rittle, Jason LeBrun. "Wireless sensor node group affiliation method and apparatus" US 7688793 B2. Filed Apr 5, 2006. Granted Mar 30, 2010.
- Scott San Filippo, Arshad Tayyeb, Spencer Murray, Kevin Cheng, Jason LeBrun. "Using historical location data to improve estimates of location" US 20140278086 A1. Filed Mar 12, 2014. Patent Pending.

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## Personal/Hobby Projects

- GitHub: <https://github.com/jblebrun>
- Stack Overflow: <http://stackoverflow.com/users/569106/jason-lebrun/>
- Mobile Applications for Palm webOS
  - Gliss, a puzzle game
  - Ultra8, a retro virtual machine emulator
  - PreUnblock, a shortcut app for add unblock prefix to dialed numbers
- OS patches and services for webOS
  - PDF rotate, enable rotation in stock PDF viewer
  - OSJ-sockets, prototype socket access for webOS programs
  - ThrobSnob, controlling when the notification light blinks
- Other (<http://www.opensourcejason.info/oldsite/Coding>)
  - ICY (ShoutCast) metadata parsing tool
  - HP 34401 Benchtop multimeter oscilloscope program
  - Gnome Deskbar: Apt-Threaded, DeskbarTimer, DeskbarConfigurator
  - GaimTabAutoSwitch - Automatically switch tabs on new message

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## Skills

- Mastery: Kotlin, Java, JavaScript/node.js, Python, Objective-C, C
- Proficiency: Swift, C, Assembler, bash scripting + POSIX CLI tools
- Familiarity: C++, assembler, Scheme, Lisp, Haskell, Clojure
- Comfortable with a soldering iron and an oscilloscope/logic analyzer
- Environments/Libraries: Android, iOS, node.js, RxJava
- Foreign Languages: French