

## 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). I love to learn new things. 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

- 04/2008                      PhD in Electrical and Computer Engineering  
**University of California, Davis**  
Thesis: Energy Efficient Spontaneous Communication and Opportunistic Networking  
GPA: 3.7/4.0
- 06/2002                      Bachelor of Engineering, Electrical and Computer Engineering  
**University of Delaware, Newark, DE**  
GPA: 3.8/4.0 (Magna Cum Laude)
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## Professional Experience

- 06/2018 -  
09/2016 - 06/2018                      *Staff Software Engineer* **Axon Enterprise Inc, Seattle, WA**  
*Senior Software Engineer* **Axon Enterprise Inc, Seattle, WA**
- Lead engineer, in-car camera client software experience
    - Refactored prototype software to increase stability and maintainability
    - Introduced core idioms to ease introduction of new features
    - Refined and documented release process
    - Built an Android app as part of a winning Hackathon team project
    - Pushing heavily for constantly improving testability, reviewability, maintainability
    - Technologies: Go, React.js, Electron, TeamCity, Splunk
  - Lead architecture and implementation for recording pipeline on next-gen body camera
    - Generated architectural design document for peer review
    - Researched options for underlying technical library choices
    - Research and propose improvements to help refine build flow and improve build times
    - Review code and continue pushing refactoring for reliability and testability
    - Technologies: Go, C, C++, OpenEmbedded, GStreamer, MP4, H264, CMake
  - Contribute company-wide in multiple areas
    - Participate in design and code reviews on a multitude of projects
    - Interview regularly for engineers and managers on multiple teams
    - Participate in developing new approaches to interviewing
    - Mentor junior developers working on other projects
    - Contribute to bug fixes and improvements in Scala backend services
    - Jump in to fill in development staffing needs on an as-needed basis
- 07/2015 - 07/2016                      *Senior Software Engineer, Android* **NBC News Digital, Seattle, WA**
- Design middleware API layer for accessing next-generation content warehouse
  - Take ownership of HTML/Javascript-based story rendering templates
    - Used by both Android and iOS platforms
    - Organize for modularity, testability
    - Create basic build process and regression tests
  - Assist in iOS development tasks during peak iOS crunch times.
  - Re-work outdated Android app architecture for testability, maintainability, performance
    - Schema-free data store for articles
    - Decouple components and use consistent dependency management
    - Consistent asynchronous code patterns using RxJava
    - Move large amounts of codebase to more modern Kotlin language

02/2014 - 6/2015

*Senior Software Applications Development Engineer* **Yahoo Inc, San Francisco, CA**

- Created paint-style drawing module for stylized drawing.
- Built prototype home automation features into a new communications app.
- Contributed to bug-fixing and development in PHP backend.
- Launched a new household communications app.
- Core developer (Android/iOS) on a newly-formed team building Yahoo's next mobile products.
- Built a Storm-based prototype to auto-tag email images using a machine learning module developed by Flickr
- Developed travel estimate module in Aviate
- Developed calendar module in Aviate
- Worked closely with Aviate to refactor networking code for clarity and maintainability
- Implemented numerous UI improvements in Aviate.

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>)
    - Temperature sensor based on ESP8266
    - 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, Go, Objective-C
- Proficiency: Swift, C, C++, Scala, bash scripting + POSIX CLI tools
- Familiarity: 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