MICHAEL MULLIGAN

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SUMMARY

Highly adaptable software engineer with experience in all aspects of the software lifecycle. I have worked independently as well as in commercial, defense, and start-up ventures. I understand the business and technical needs unique to each, whether it means highly available or highly reliable. I am detail-oriented and have excellent communication skills, project management and leadership experience, and a strong sense of ownership.

TECHNICAL EXPERIENCE

Java
- *Tech*: Spring, Servlets/JSP, JMS, JMX, JDBC, Hibernate, JAX-WS/SOAP, JAXB, Quartz, Swing
- *Development*: Eclipse (IDE), JUnit, Maven, Ant, jconsole, jmeter, Mule (ESB)
- *Lifecycle*: Jira, Jenkins, ReviewBoard
- *Application Servers*: Tomcat, Jetty, Glassfish

NoSQL
- *Computation*: Hadoop, MapReduce, ZooKeeper, Cascading, Redis
- *Storage*: HBase, HDFS, Cassandra

C
- *Tech*: C++, C, Objective-C, Cocoa, Boost
- *Development*: gcc, Visual Studio, xCode, Eclipse (IDE), vxWorks, MULTI
- *Environments*: embedded (PowerPC), multi-processor, distributed systems, desktop (Mac, Windows)

Web
- *Tech*: PHP, XML, XSLT, ASP, WSDL/SOAP, REST, DOM/SAX
- *Tools*: MySQL, memcached, Apache httpd, nginx

Misc
- *Concepts*: highly available, cloud, Big Data, probabilistic/eventual consistency, devops, SaaS, SOA, ORM
- *SCM*: git, svn

EDUCATION

Cornell University, College of Engineering, Ithaca, NY   Class of 2005
Bachelors of Science in Computer Science   Dean's List three semesters
     focus on algorithms, machine vision, empirical methods in machine learning, clustering, and data mining

WORK EXPERIENCE

Bronto Software   Durham, NC
Software Development Team Lead   *1/2012-present*
- Led team of three engineers owning all "automation"-centric features within the Bronto Marketing Platform
- Developed feature specifications in line with business objectives to maintain a key strategic advantage over competitors. Worked directly with stakeholders across the organization (CEO, sales, marketing, business development, customer support) to fully capture and promote both customer and business needs.
- Formulated project timelines and managed full software development and operations process.
- Directed a complete and highly successful migration of production data from Cassandra to HBase.
- Oversaw and promoted adoption of "workflow" feature to customers, achieving 18% growth in customer adoption in first year and touched over 100 million contacts within Bronto's database.

Software Engineer   *1/2010-1/2012*
- Created a direct new revenue source via "workflow automation," a flowchart style feature for automating modular chains of marketing logic based on contact data and actions. The vast majority of data is processed continuously and in real-time with supporting components in off-line jobs (Quartz, MapReduce). "Spiky" nature of user activities posed many caching and concurrency challenges.
- Workflows are in current production use by hundreds of customers. Architected and developed feature in Java and Spring on 25 Tomcat servers, backed by an 18 node Cassandra cluster and a 35 node HBase cluster.
- Developed an event-driven publish/subscribe Java framework backed initially by HornetQ (JMS) and currently, Redis. Significantly decoupled logical modules as well as facilitated communication and load-balancing across Tomcat cluster. Daily average throughput is approximately 5,000 messages per second.
- Designed a feature to compute the "optimal" day/time to market to an individual, backed by a Cascading MapReduce job which runs daily over all tracking activity for a contact database over hundreds of millions in size.
- Implemented hiring and interview rubric, interviewed all team candidates, and mentored junior engineers.

CenturyLink (formerly Embarq)   *7/2009-1/2010*
Applications Developer (Contract)   *Wake Forest, NC*
- Developed IPTV system to support new digital video recorder (DVR) offering to a customer base of 20,000.

- Responsible for web-facing interface (PHP, MySQL), integration with MS Mediaroom, and web services to link with both internal and external affiliates (e.g. Netflix, YouTube, OAuth).
- Architected an enterprise service bus using Mule, Java (EJB3), Hibernate, and Spring to tie back-end business logic/systems with web properties via a corresponding RESTful API.
- Established team-wide "best practices," formulated coding standards, and oversaw junior engineers.

Lockheed Martin 8/2005-6/2009
Software Engineer, Missiles and Fire Control *Orlando, FL*
- Responsible for modern, scalable, real-time tracker software on the F-35 (JSF) EO Targeting System (EOTS).
- Developed embedded, parallel code in C++ and visualization, testing, and simulation tools in Java
- Joined team when behind schedule and delivered tracker code on time with over 500% performance improvement.
- Formulated core requirements/algorithms behind tracker; considered for patent.
- Led creation of an extensible, re-usable high performance math software library.
- US DoD Secret clearance

Apple Computer, Inc 6/2004-8/2004
Intern Software Engineer, Professional Applications Group *Cupertino, CA*
- Added and shipped new feature to Soundtrack Pro: Mackie protocol compliant control surface support.
- Responsible for design & integration between hardware (e.g. MIDI) and higher-level components (e.g. user interface).
- Developed middleware in Objective-C with real-time constraints on desktop systems.

Cornell Information Technology HelpDesk 11/2001-2002, 2003-5/2005
Macintosh Team Leader (formerly Supervisor, Consultant) *Ithaca, NY*
- Provide Macintosh technical support to the full Cornell community (students, alum, professors, etc) by telephone, email, and walk-ins.
- Directly oversaw a team of 15 Macintosh consultants and supervisors.
- Responsible for personnel training, hiring/termination, promotion, scheduling, and documentation.

Kraft Foods International 5/2002-4/2004
Developer *Rye Brook, NY & Ithaca, NY*
- Developed components for rapidly growing, company-wide SharePoint and eRooms based intranet portal
- Solicited requirements and developed custom components for internal customers in Java, ASP, VB, XML/XSLT, and SOAP-based services.

Research in Machine Learning/Data Mining 6/2003-12/2004
Student Research *Ithaca, NY*
- Developed C tool and suite of shell scripts for analyzing performance of various models/algorithms on arbitrary data.
- Engaged in a research project studying a new learning model, ensembles, focused on enhancing the strengths of common ML models (e.g. neural networks, decision trees, etc) while minimizing deficiencies.

Spinvision 1997-1998
Co-founder *Westport, CT*
- Web design firm evolved into Web-Sell: online community to setup online stores for free.
- Led development of user interface and contributed to server-side development using ColdFusion (later PHP) and mySQL.
- Garnered one million dollars venture capital.

INDEPENDENT SOFTWARE DEVELOPMENT

myPhoto 12/2002-7/2005
- Free program (PHP and Cocoa components) that automatically generates a photo album web site from Apple's iPhoto data.
- Over 30,000 downloads, mention in iPhoto 4 for Mac OS X: Visual QuickStart Guide, inclusion with six magazines, seven translations, and overwhelming support from the Mac community.

Cocoa Software Development 2002-2006
- Released myPhoto Installer (customizes Apache for myPhoto).
- Unreleased: FTP client, server status monitor, music classification, OCR

PUBLISHING

Cooking/Recipe Web Site *("Mike's Table" -- http://mikes-table.themulligans.org)* 8/2007-8/2012
- Designed site with original, detailed recipes photographed and written once per week.
- Secured dedicated sponsoring and averaged approximately 30,000 unique visitors monthly.

Chapter in PHP Hacks, 1st edition, O'Reilly publishing 12/2005
- Authored a chapter (Hack #33) in O'Reilly's PHP Hacks, by Jack Herrington. ISBN 0-596-10139-2.