

Richard Cardone, Ph.D.

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Summary

Senior software engineer and researcher with extensive experience in delivering complex systems on time. Interested in a research/development position where creativity, problem solving, and design judgment are highly valued.

Core Competencies: Distributed System Design, Java, MongoDB, PostgreSQL, REST.

Hands-On Technology Experience

- **17 years Java development**
Linux; Windows; Eclipse PDE, JDT; Apache ActiveMQ, Karaf, CXF, Tomcat, Xmlbeans; Hibernate, JDBC; Postgres; MongoDB; Dropwizard; Quartz; J2EE servlets; JavaCC; DOM, SAX, JAXB; W3C Xforms; XML schema; Voice XML; Swing; SWT/JFace; Ant, Gradle; Jython; JSR 223 scripting; JNI; DIMACS encoding; SAT4J; lparse/smodels.
- **8 years C/C++ development**
AIX, OS/2, xlc+, gcc, Eclipse CDT, Sybase, TCP/IP, NetBIOS, Motif, GSS security API, Trusted Computing Group Software Stack (Trousers), Openssl.
- **3 years APL2 development, 1 year Perl/Oracle development**

Education

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- **University of Texas, Austin, TX** – Ph.D. in Computer Sciences, 2002.
 - **Polytechnic University, Hawthorne, NY** – M.S. in Computer Sciences, 1990.
 - **State University of New York, Oneonta, NY** – B.S. in Mathematics with Honors, 1983.

Publications and Patents

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- Published in World Wide Web Conference, International Conference on Software Engineering, IEEE Pervasive Computing, Conference on Aspect-Oriented Software Development, Software Product-Line Conference, and other publications.
 - 6 patents issued, 7 pending.

Experience

athenaHealth

Apr 2015 – Present

Senior Software Engineer, Austin, TX

- Refactored critical SQL query code for improved reusability and performance.
- Main implementer of new Self-Entered Referrals feature.

MongoDB

Nov 2014 – Feb 2015

Senior Performance Engineer, Austin, TX

- Discovered and submitted fixes for bugs in two open source benchmarks.
- Compared performance of MongoDB, Cassandra and Couchbase

Health Symmetric

Feb 2014 – Oct 2014

Senior Software Engineer, Austin, TX

- Redesigned/hardened electronic health record application for customer beta rollout.
- Re-architected and implemented completely new platform as basis for all future releases.
- Patents: 1 filed.

Dell

Apr 2011 – Feb 2014

Software Developer Senior Engineer, Round Rock, TX

- System Management Products
 - Bronze award for joint Dell/UT Software Engineering research proposal.
 - Led implementation of radically new design for improved server mgmt.
 - Improved inventory performance on 200 servers from **3 hours to 100 seconds**.

- Designed/implemented core subsystems for next generation Active Systems Mgr.
- Redesigned/refactored core pieces of Dell Management Plug-In for VMware vCenter.
- Patents: 2 filed, 4 under review.

Overwatch Systems (Textron)

Mar 2009 – Apr 2011

Principle Software Engineer, Austin, TX

- Simulation Tools
 - Led team of 4 developers in creating *Simulation Authoring* and *Surrogate UI* applications for Brigade Combat Team Modernization (BCTM) program (Swing, XML).
 - Provided feature-rich GUI for test and demo years before BCTM product.

IBM / Watson Research

1986 – Feb 2009

(2004-2009) Senior Software Engineer, IBM Watson Research, Hawthorne, NY

- (2008-2009) Trusted Electronic Voting System
 - Led exploration into secure, reliable, accurate and verifiable electronic voting systems.
 - Filed 4 patents and joined OASIS Election and Voter Services standards committee.
 - Technologies: Linux, C/C++, Openssl, Trusted Computing Platform, Eclipse CDT.
- (2005-2009) IBM Expert Conversation Builder and IBM Semantic Engine
 - Development and runtime platform for conversational recommendation systems.
 - Implemented J2EE server infrastructure including session management, multiple conversation support, web service API, JSR 223 scripting support, and parsers.
 - Development and runtime platform for semantic network knowledge base systems.
- Patents: 3 issued, 2 filed.

(1993-2004) Advisory Software Engineer, IBM Watson Research, Hawthorne, NY

- (2004) HopiXForms
 - Explored use of XForms standard in web application generators.
 - Led team of 3 in developing authoring/runtime environments for application generator.
 - Presented "*Using XForms to Simplify Web Programming*" paper at WWW 2005.
 - Technologies: Java, Eclipse, XForms, XHTML, Struts, J2EE, XML, Xmlbeans.
- (2002-2003) Websphere Multi-Device Authoring Technology
 - Led team of 6 in the view specializer subsystem, which was released as part of the IBM Websphere Everywhere Toolkit v5.0.1 on 8/16/04.
 - Proposed a method to dynamically incorporate new device profiles into system, which led to U.S. Patent 7,392,324; filed 2 other patent applications in related work.
 - Technologies: Java, Eclipse, J2EE servlets, JSP, Voice XML.
- (1997-2002) Ph.D. Candidate, University of Texas, Austin, TX
 - Research into software reusability with Professor Calvin Lin.
 - Dissertation: "Language and Compiler Support for Mixin Programming."
 - Implemented extensions to Java in a source-to-source compiler.
- (1993-1997) IBM Clinical Information System
 - Joint AIX/C++ project with national healthcare provider to develop a patient charting system, which aggregated systems from 15 sites and served 200,000 patients.
 - Developed the communication subsystem for the multi-process, multi-threaded, distributed workflow manager that was the communication hub for all transactions. Designed for scalability, availability, and reliability using Sybase.
 - Designed and implemented system-wide secure communications, directory services, semaphore, logging and tracing subsystems.
- Patents: 2 issued, 3 filed.

(1986-1992) Staff Programmer, IBM, NY

- Led team of 5 C developers implementing "call home" service in IBM mainframes.
- Led team of 8 in design/implementation/support APL2-based financial system.

Professional Memberships and Certifications

- Association for Computing Machinery (ACM); SIGSOFT.
- Institute of Electrical and Electronics Engineers (IEEE).
- DOD Security Clearance (expired 2013).