

Rahul Vaidya

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Objectives

Seeking a challenging software development position.

Skills

- **Language Proficiency:** ASP.NET C#, J2EE, PHP, Adobe Flex C++/C, Python, Objective-C (iPhone), Visual Basic, JavaScript/HTML/AJAX, Ruby on Rails, Matlab
- **Frameworks:** Apache Tomcat, DCOM, XNA, OpenGL, ns-2
- **IDEs and Versioning:** Visual Studio, Eclipse/PDE/Flash Builder 4, Xcode, NetBeans, Git, SVN, CVS
- **Database Systems:** MS SQL Server, MySQL, PostgreSQL, SQLite

Education

- **M.S. Computer Science, University of California, Los Angeles (UCLA), Graduated June 2009. Graduate Class GPA: 3.74**
 - Focus: Computer Networks, GIS, Embedded sensing using mobile phones.
- B.S. Computer Engineering, University of California, Irvine. June 2007.
- Significant Courses
 - Computer Networks, Wireless Networks, Smartphone Sensing Applications, Distributed Databases, Operating Systems, AI, Artificial Life, Computer Graphics, Bioinformatics, Digital Image Processing, Game Development

Experience

Aug 2009 – Present **Senior Software Engineer, Lightning Bolt Solutions**

- Lead **.NET** developer. Primary responsibilities include large feature implementations and maintaining existing C# ASP.NET codebase, including XML-based web services, HTML/JS web applications, and Windows applications for an automated physician scheduling system.
 - Designed and implemented queue management system for internal scheduling jobs that spans multiple workhorse machines and includes failure tolerance.
 - Designed and implemented framework for mobile device subscription service to schedules. Schedules are automatically generated for users based on iCalendar RFC spec.
 - Designed and implemented database abstraction layer to allow legacy SQL Server-based code to run using MySQL. Includes automatic query translation to MySQL syntax for the general case (excludes UDF calls, etc.)
 - Improved system-wide performance and user-responsiveness by as much as 1000% by managing required legacy objects using multithreading and caching.
- Designing and developing Ruby on Rails UI for creating and managing scheduling rules
- Headed initiatives in evaluating and migrating to open source tools to cut software dependency costs
- Developed tools to analyze network connectivity issues, automate repetitive tasks, and aid support staff in resolving customer issues.

- Heavily involved in company server infrastructure development, mainly using Linux and VMWare virtualization.

Oct 2008 – June 2009 **Master's Project (Advisor: Deborah Estrin), Center for Embedded Networked Sensing, UCLA**

- Developing an advanced GIS data visualization tool for the Networked Naturalist project (<http://networkednaturalist.org/>). Framework facilitates easy and rapid development/ deployment of GIS web applications. Released as Open Source under LGPL. Uses **Adobe Flex**, Google Maps Flex API, UMN MapServer, and PostGIS. Webpage: <http://www.flexgis.org>

Sep 2008 – June 2009 **Graduate Student Researcher, Network Research Laboratory, UCLA**

- Developed an iPhone client application for the collection of vehicular driving characteristics. These clients would then upload collected data to a distributed database system for post-processing/storage. Used GPS and Accelerometer, internal storage in SQLite.

Aug 2007 – Oct 2007 **Intern, StrataGent Life Sciences, Inc (now Corium International)**

- Performed transient signal analysis on piezoelectric linear actuator to optimize physical displacement in response to input pulse. Involved measuring displacement with lasers at the micron level and using Photron high-speed camera to view physical characteristics at the microsecond level.
 - Wrote program that interfaces with the company's oscilloscope over serial port; program sets oscilloscope parameters, remotely initiates oscilloscope operation, captures waveform data as voltage vs. time, and performs fast Fourier transforms and other project-specific analytical tasks on the data automatically. Greatly improved the speed of the experimental testing cycle.

2007 – 2008 **Undergraduate Research Assistant, University of California – Irvine**

- Developing a **PHP** server side collaboration solution to allow developers using a certain debug tool to upload bugs, test cases, and error information to a server automatically. Solution integrates SVN functionality along with bug tracking, allowing developers to check out arbitrary versions of code that other developers submitted. Diffs are used to track areas of source code where problematic bugs exist.

2006 – 2007 **Network Academic & Computing Services, University of California – Irvine**

- Developed a prototype interactive campus map system using the ArcGIS Server framework developed by ESRI. ArcGIS Server offers a set of COM objects that allow management of geospatially correlated data, and has a Java API that wraps calls to these COM objects within network requests. ArcIMS subset supports display and retrieval of geospatial data objects through a proprietary XML AJAX implementation. Data is stored in a database, accessible by proprietary API as well as JDBC. I was responsible for the full implementation of the project. Project included:
 - Initial implementation on Linux using Mainwin (Com/.NET to J2EE port done by ESRI), followed by native Windows implementation.
 - Integration of GUI framework using **JSP** and **JSF** and experimental implementation using **Google Web Toolkit** to allow additional geospatial data manipulation.
 - Utilizes the Java Application Development Framework for visualization, and ArcObject components for specific analytical tasks. Developed on ArcGIS Server 9.2.

2004 Summer **Internship, PharmQuest Corporation** [<http://www.pharmquest.com>]:

- Created a script engine, written in **Python** and **Java** (Jython), to automate stress/ functionality testing of the company's web pages. Developed system provided a great increase in both usability and execution speed.

2003 – Present **Consulting Web Design/Web Master**:

- Co-developed an HTML/JavaScript demo for TSE Corporation. The narrated demo can be accessed at: [<http://www.rvaidya.com/tsedemo.wmv>]
- Host and manage Windows and UNIX Apache web servers. Experience with Bash shell scripting. Webmaster for [<http://www.chirosolve.com>].

Other Significant Projects

- **SourceForge**
 - Java tool that rasterizes PostGIS geometries into image tiles that can be overlaid on Google Maps. [<https://sourceforge.net/projects/gmapstilegen>]
- **Java.Net**
 - Developed a **Java** tool that allows java.net community leaders and project coordinators to extract project related information from O'Reilly/CollabNet DB text dumps and organize it into a **MySQL** database. Intended for internal usage within the java.net organization; has been removed from project list.

Citizenship Status: **Native US Citizen**