

Mr. Karan M. Gupta

San Francisco Bay Area, CA

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I take the initiative to create useful, intuitive, beautiful, next-gen products. Armed with a MS in AI Robotics, plus experience at various levels and roles, I have demonstrated excellent management, leadership, communication and organizational skills.

Gallup StrengthsFinder Themes: Futuristic, Relator, Restorative, Significance, Competition.

SKILL SET

- Thorough understanding of the web stack and involved technologies. Well experienced with making multi-tiered web-apps, mobile apps and multi-threaded desktop apps.
- Worked with several databases (PostgreSQL, MySQL, Oracle, etc.), versioning systems (Git, SVN, etc.), and operating systems.
- Proven excellent research and analytical skills, coupled with an innate ability to grasp new technology easily and quickly.

Programming Skills: Java, Ruby, Rails, XMPP/Jabber, Spring, Hibernate, Struts, FreeMarker, HTML5, jQuery, JavaScript, CSS, AJAX, RESTful web services, Maven/Ant, Alfresco ECM, Adobe Flex/FlashBuilder, PHP, SQL, C/C++, AI Robotics, Distributed Computing, Reinforcement Learning.

Embedded S/W Dev: TinyOS, TI's MSP430 programming, I2C, serial communication.

WORK EXPERIENCE

Senior Software Engineer, Sony Computer Entertainment America (PlayStation), Foster City, 10/2007 – present

Lead developer, responsible for providing an engaging, highly useful collaboration environment for managers, artists and developers across PlayStations's game studios in the US, EU and Japan. Also engaged with determining business process solutions for game studios.

- Developing a Forms Service which is rapidly being adopted across various organizations to improve business processes. Written in PHP, this is an extensible, powerful application.
- Developing in Java our web-based enterprise collaboration suite. It also integrates with various vendor solutions (Alfresco, Confluence, JIRA, Jive, SourceForge) providing extended features for sharing and digital asset management.
- Developed drag-drop-enabled, themeable, widget framework to allow users to customize their landing pages. Convention over configuration ensures system is loosely coupled.
- Extended many features of the collaboration suite and added core, complex functionality such as Groups, Permissions, Profile and Account management, etc.
- Revamped the layout, navigation and look and feel of the system, significantly speeding up page download, simplifying template management, and increasing user satisfaction.

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Software Engineer, TransCore, San Diego, 9/2005 – 9/2007

As lead engineer, introduced open-source sw alternatives. Developed applications that formed an integral part of tolling solutions installed worldwide, such as FasTrak, EZ-Pass, Salik etc.

- Ported an existing J2EE web-application (FMMS) from WebSphere to Eclipse/JBoss. Re-architected for robustness, multiple DB support, clustering and increased development efficiency. Developed Jasper Reports and added Struts and Hibernate layers.
- Designed and developed the JobScheduler, a Struts/JBoss web-application to execute Java programs at specified intervals, running as a JBoss service (MBean). Schedules are stored in XML files. UI uses advanced JavaScript and CSS to provide a powerful desktop-like scheduling interface. Supported large-scale web-applications (VPS, VES and Host) based on JSF, OJB and DBCP as well.
- **JBoss Clustering:** Ported J2EE web-applications from standalone to clustered solutions.
- **Build Scripts:** Developed efficient Ant scripts to do everything from compilation to remote deployment, supporting quick customization for different customers and allowing transparent deployments on both Windows and Linux.
- Setup, configured and maintained all application servers: JBoss, Tomcat, Apache Httpd.

Software Engineer & Administrator, Resolution Systems Inc., Lubbock, 7/2004 – 8/2005

Second employee in high-tech, demanding startup environment, developing mesh sensor networks for the hospitality industry. A highly educational and invigorating experience.

- Developed multi-tiered web applications using PostgreSQL (including DB architecture and coding), C-JDBC, Hibernate, Struts, FreeMarker and DHTML for deployment on JBoss and JBoss Portal.
- Developed multi-threaded standalone GUI applications using Swing and NetBeans RCP for the hospitality industry.
- Setup Linux user environments and all servers: JBoss, Tomcat, PostgreSQL, Apache Httpd, Subversion, FTP, NFS, Samba, Jabber, Blogger.
- **TinyOS:** Developed Wireless Mesh Sensor Networks, programming in NesC for TinyOS running on Crossbow motes. Developed TCP and Routing algorithms to ensure *reliable* wireless communication between motes using the *best* possible multihop route.
- **I2C Development:** Developed an interrupt-driven standards-compliant I2C library for MSP430 processors to allow I2C communication *without* hardware support. Written entirely in C, the library implements all aspects of the protocol, including multi-master.

Research Assistant, AI Robotics Lab, Texas Tech University, Lubbock, 1/2004 – 6/2004

- Research Localization and Mapping solutions for robots and to apply concepts of Reinforcement Learning to Robotics.
- **Water Management System:** Developed a Java Swing application, using JFreeChart and JFreeReport to interface with physical ORP, Pressure and pH sensors for data collection (Oracle), report generation and control. Developed a PHP web interface to provide users the ability to view the data collected in the Oracle db.

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EDUCATION

- March 2007: **Leadership & Management Development: Managing for Maximum Performance.**
UCSD Extension, San Diego, CA.
- May 2005: **Master of Science, Computer Science**, majoring in AI Robotics.
Texas Tech University, Lubbock, Texas.
Thesis: Monte Carlo Localization for Robots using Dynamically Expanding Occupancy Grids and a Centralized Storage System.
- June 2002: **Bachelor of Engineering, Computer Engineering (1st Division)**
Maharshi Dayanand University, Institute of Technology & Management, Gurgaon, India.

HONORS AND AFFILIATIONS

- U.S. Mensa Member, 2/2003 to present.
- TiE, 1/2010 to present.
- Network of Indian Professionals, 9/2005 to present.
- Judge, South Plains Regional Science and Engineering Fair, 4/1/2005, Texas Tech University.
- Scholarship for entire Master's Program, Fall 2002 to Spring 2005, Texas Tech University.
- Member, Major Events and Films Committee, Texas Tech University.
- President, Computer Society, 8/2000-6/2002, Institute of Technology & Management, India.
- Member of Student Council, 1997-1998, Delhi Public School, New Delhi, India.
- School Captain, 1995-1996, St. Joseph's College, Nainital, India.

Independent work summarized on following page

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INDEPENDENT WORK

- **TheIndianList.com**: developed in Ruby on Rails, map-driven guide to local listings. SEO that works, zero marketing.
- **XMPP/Jabber IM Client**: Developed a full-featured desktop XMPP client and server application with some nifty features, using Eclipse SWT, Smack and Wildfire (now Openfire).
- **AI Robotics**: Designed robots using the Lego Mindstorms kit, and NQC language, to demonstrate navigation. Implemented wandering and HMM mapping on the Nomadic Scout Simulator. Received highest grades in all projects, for application of sound engineering principles and good programming. Details and pictures: <http://karanmg.com/Computers/#ra>
- **SourceJammer Plugin for Eclipse**: Developed a plugin for Eclipse to perform source control actions (e.g. checkin, checkout, etc). Now, developers can avoid switching between the IDE and the SourceJammer client to manage their code. Available at: <http://sourceforge.net/projects/ksjeclipse/>
- **Multimedia Programming**: Implemented VoIP, JPEG compression and MPEG Scene Indexing in C.
- **Reinforcement Learning**: Developed in C/C++ to carry out a performance comparison between Sarsa-Lambda and Watkin's algorithms by implementing the pole-balancing and mountain-car problems.
- **Advanced Operating Systems**: Developed parts of a Unix clone (Boot-strapping, Memory Management, Process Creation, File System and Terminal Emulator) using Simics to emulate a Sun Sparc computer.
- **Distributed Computing**: Developed math servers and a central distribution server along with clients to demonstrate DC concepts, in C/C++, using RPC/UDP, threads and marshalling.
- **Voice-operated Management System**: Developed a voice-operated application in Visual Basic for Windows to completely control the OS by voice. Uses Windows API extensively. Created a complete Library Management System, which used an ODBC connection to an Oracle DB.
- **itmindia.edu**: Initiated and developed first official college website, 5/2000.