RASHMI RAJ

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OBJECTIVE

A full-time position in managing and designing business solutions to complex problems that requires entrepreneurial skills coupled with solid technical knowledge and program management experience.

EDUCATION

2005-Present   **Stanford University, Computer Science Department**, Stanford, CA
                Master of Science, Expected graduation March 2007

1997–2001   **Birla Institute of Technology, Computer Science Department**, Ranchi, India
                Bachelor of Engineering, Awarded Gold medal as the top ranked candidate in the graduating class of 350

PROFESSIONAL/RESEARCH EXPERIENCE

01/2006–Present   **Research Assistant, Stanford Medical Informatics (SMI), Stanford University**, Stanford, CA
- Conducting research on a large database of HIV patients for finding temporal patterns among gene mutations, drugs and clinical outcomes.
- Developing and implementing multi-relational data mining algorithm for pattern discovery. This will also support temporal querying, improved statistical aggregation and data visualization.

06/2006-09/2006   **Program Manager Intern, Microsoft**, Redmond, Washington
- Took ownership of providing business solution to information card provisioning starting from incubation to implementation, integration and verification for the next release of Active Directory Federation Services (ADFS).
- Led several inter-team and cross-team brainstorming sessions and evaluated various approaches to managed card provisioning.
- Created requirement and specification document, design, architecture and dependency model for provisioning managed card and led the team for the implementation and verification.

05/2003-12/2003   **Team Leader, Motorola Inc.**, Phoenix, Arizona
- Designed and developed software for the new air interface standard (EvDO) in the Super Cell Network. Demonstrated a 20 % increase in data throughput without impacting data integrity.
- Supported field integration of hardware and software for a new Mobility Manager unit. Recognized by customers including Verizon (USA), Alcatel (USA) and KDDI (Japan) and internal System Integration Lab members for providing quick solutions to reported issues.

08/2001-05/2003   **Software Engineer, Motorola India Electronics Limited**, Bangalore, India
- Designed and implemented an object-oriented framework for resource management for a vast distributed real-time network with fault-tolerance with minimal redundancy in resources. This significantly improved performance and security for data transmission and call setup.
- Implemented embedded software in C++ for operation and management of new hardware components including Selection and Distribution Unit (SDU) and Multiple Channel CDMA card. This provided a higher data rate and increased channel element availability for call setup.
- Designed and implemented new classes for soft hand-off during call setup. Tested this feature for Verizon (USA) and Alcatel (USA) and demonstrated significantly reduced call failure.

06/1998-08/1998   **Summer Intern, Usha Telecom India Limited**, Calcutta, India
- Developed a relational database, using Oracle, and implemented billing computation using SQL for a subscriber network of over 100,000 customers. This database implementation is employed to date as it allows for faster data access, better fault tolerance and improved data management.

COMPUTER SKILLS

Operating Systems: Windows XP/2000/NT, Linux variants, IRIX, Solaris, Unix, and DOS
Languages: ASP.NET, C#, Java, C, C++, VC++, PHP, Perl, Visual Basic, HTML, JavaScript, XML, UML, OWL etc.
Database and Client/Server Technologies: Oracle (SQL, PL/SQL), MSSQL, MySQL, Apache and Microsoft IIS
Software Tools: Eraser (Dynamic Race Detection), Purify (Memory Leak Detection), ESC/Java, Coverity Prevent (Static Analyzer), Chord (Static Race Detector), Object Maker (Automatic Code generation using UML), Agitator, gdb, gprof (Trend Profiling), Threat Modeling Tool, Visio, JNS (Java Network Simulator), Protégé, CVS, SVN, SourceDepot etc.
Others: Six Sigma project experience

PUBLICATIONS AND SELECTED PROJECTS

Autumn 2005 **Web Spam Detection with Anti-Trust Rank –** Adversarial Information Retrieval on the Web (29th Annual International ACM SIGIR-2006)
- Proposed and implemented an Anti-Trust Rank algorithm for spam page detection on the web. Validated it on a webgraph of the "uk" domain containing 18.5 million nodes and 300 million links.
- Demonstrated a significant improvement in precision and recall for detecting web-spam pages in high page rank buckets compared to existing algorithms.

Autumn 2005 **Gene Microarray Data analysis**
- Linked gene microarray data (Gene Expression Omnibus) with Gene Ontology (GO) and pubMed database. Implemented a data mining algorithm to provide a unified graphical representation of relevant gene data with normalized gene expression level.
- Developed a web-based interface using PHP and MySQL for this application. This interface is being evaluated for implementation at National Center for Biotechnology Information (NCBI).

Spring 2001 **Encryption/Decryption on Unix Systems**
- Designed and implemented an Encryption/Decryption system on UNIX platform using IPC and BSD sockets for network communication. This was later ported to the Window platform using ASP as the front end. This project was recognized as the best student project of Birla Institute of Technology, Ranchi for the 2001 batch.

LEADERSHIP, PROFESSIONAL ACTIVITIES AND AWARDS

- Elected MS Bureaucrat for computer science department at Stanford University for the year 2005-2006.
- Awarded the "Bravo" award at Motorola for innovative solutions and patent submission.
- Awarded Gold medal as the top ranked candidate in the graduating class of 350.
- Best summer intern project award at Usha Telecom Ltd. for a robust and secure database design and implementation.
- Second prize for the project submission in All India IEEE festival in October 2000.
- Active member of Eastside Toast Masters club.
- Student Member of IEEE, ACM, HAM Radio Society, SWE and WICS.

WORKSHOP AND TRAININGS

- Presented paper on "Web Spam Detection with Anti-Trust Rank" in international workshop on Adversarial Information Retrieval on the Web (29th Annual International ACM SIGIR-2006) in University of Washington.
- Trained new hires at Motorola in DQS (Developing Quality Software), CMMI (Compatibility Maturity Model Integration), Software Quality and Metrics, Reviews and Causal Analysis, Software Design, Configuration Management, Software Testing, Effective Coding and Debugging and Estimation & Sizing during the two month long induction program in 2002.

KEYWORDS

Data mining, Web mining, Text Retrieval, Web Search, Distributed Database, Transaction management, Cryptography, Data Security, Security Protocols, Bioinformatics, Embedded software design, real time systems, ASP.NET, IIS, C#, Java, C, C++, PHP, Perl, MySQL, Windows, Unix, Database, Six Sigma, Software Development, Telecommunication, EVDO, UML, CVD, SVN, DBX, Object Maker, JSCS, JNS, Sablime, Clear Case, Visual Basic, ASP, TCP/IP, CDMA, Ontologies, Protégé, OWL