

Rajesh Kumar

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Objective

To obtain summer internship position in software development/research

Education

3rd year PhD student in Computer Science, UCSB (September 2005- present),
GPA till date 3.85/4.0

B.Tech.(Hons) in Computer Science and Engineering Jul 1999 - May 2003,
Institute of Technology, Banaras Hindu University, Varanasi, India, Overall
GPA 3.48/4.0

Professional Experience

Summer Intern, Intel, summer 07

Summer Intern, Yahoo!, summer 06

Senior Associate, Techspan India Limited, Bangalore, India. April 05 – Aug 05

Software Development Engineer, Talisma Corporation, Bangalore, India July
03- March 05.

Skills

Programming Languages: C, C++, C#, Java

Databases: Sql Server 2000, MySql

Frameworks: .NET, MFC

Internet Technologies: JavaScript, VbScript, ASP.NET, XML

Platforms: Linux, Windows

Publication

J. Singh, U. Madhow, R. Kumar, S. Suri, R. E. Cagley. "Tracking Multiple
Targets Using Binary Proximity Sensors" in [IPSN '07](#)

Research Interests

Algorithms for sensor networks, Data Approximation and Aggregation

Graduate Courses Taken

Database for Multimedia, Algorithms for the Internet age, Distributed
Systems, Database Theory, Advanced Networks, Computational Geometry,
Theory of Computational Complexity and Approximate Algorithms.

Projects Undertaken:

- Tracking Objects With Sensor Networks – UCSB – September 2006 – Present
Working on the tracking objects with sensor networks under the guidance of Prof.
Subhash Suri. We have a very simple model of sensor networks and we are
working on theoretical limits and developing algorithms to achieve these limits for
the tracking problem.
- Context Aware Computing: In the summer of 2007, during my internship at
Intel, I worked on the Context Aware Computing Project. I developed an interface
between different kind of sensors and the PC running Windows or Linux, so that

data could be exchanged between the two. I also worked on Context Broadcast for which a patent filing is in the process.

- Experimentation Platform for Yahoo! - Summer 2006

In the summer of 2006, I worked with Yahoo! On its experimentation platform. I worked on real deployments of the product, porting the code to linux and designed and developed a prototype of the fractional factorial experiments.

- Fully Replicated Dictionary On Top Of Chord

Designed and implemented a fully replicated dictionary on top of Chord as a class project for the Distributed Systems course in Winter 2006.

- Content Based Similarity Search For Biological Images, UCSB.

I designed and implemented a fast content based image retrieval system for a database of biological images. I designed a dynamic programming based algorithm to match images based on region similarity. The system was implemented in C++ and used PostgreSQL as the database. I implemented a R-Tree index structure for efficient nearest neighbor queries.

- Reducing Total Cost Of Ownership Of The Talisma System, Talisma Corp., India.

Talisma is a customer relationship management product. It was initially designed to be run on multiple databases. The cost of the ownership of the product depended on the number of databases used. I designed and implemented the chat feature of Talisma to run on a single database. I redesigned the schema and the database access code to access the single database. I used ASP.NET, Sql Server 2000 and AJAX technologies to implement it.

- Web Client for Talisma, Talisma Corp., India.

I designed and implemented a feature which guides the user, based on the usage pattern, to a chat application in order to talk to a support executive. I also designed and implemented session management features. The system was designed to be accessible to a wide variety of web browsers. The implementation was done in C++ using the Microsoft ISAPI interface. XML and JavaScript technologies were used in the front-end development.

- Senior Year Project towards B.Tech. dissertation. Query Optimization for Very large Scale Databases under the guidance of Prof A.K.Agarwal, Department of Computer Science and Engineering, Institute of Technology, Banaras Hindu University, India (July 2002 - May 2003)

- An Executable Specification Language on Message Sequence charts for Embedded Systems under the guidance of Asst. Prof. Abhik Roychoudhary School Of Computing, National University of Singapore, Singapore (May - July 2002)

- Skelatonization Of Gray Level Images Using Self Organizing Neural Networks: under the guidance of Dr.Amitava Dutta, System Analyst at Indian Statistical Institute, Kolkata, India (May July 2001)

- Electronic Display And Judge For Chess: Done the project in a group of with other batch mates for Model Exhibition, won Prizes for the same. (November 2000 - February 2001)