

Sarvjeet Singh

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Profile

IIT graduate currently pursuing PhD in Computer Science with research interests in Uncertain Data Management, Privacy and Security in Databases and Artificial Intelligence. Diversified technical skills ranging from proficiency in programming languages to developing software and hardware. Excellent analytical, presentation and communication skills with strong leadership qualities and a team player.

Education

Purdue University, West Lafayette, IN.	Jan 09
PhD in Computer Science GPA: 3.92/4.0	
Purdue University, West Lafayette, IN.	May 05
M.S. in Computer Science GPA: 4.0/4.0	
Indian Institute of Technology (IIT), Bombay, India	May 03
Bachelor of Technology in Computer Science and Engineering GPA: 8.68/10.0 (Departmental Rank: 7th)	

Experience

Summer Intern , Google, Mountain View, CA.	Jun 08-Sep 08
Proposed and implemented a solution for automatic schema change detection and reconciliation of constantly evolving data sources.	
Graduate Research Assistant , Computer Sciences, Purdue University.	Jan 07-Dec 08
Worked on research issues related to managing uncertain data and developed Orion DBMS which extends PostgreSQL to deal with imprecise or uncertain data.	
Graduate Research Professional , Rosen Center for Advanced Computing, Purdue University.	Dec 05-Dec 06
Developed mobile applications for deployment in intelligent environments using technologies such as J2ME and did research on issues related to communication technologies like RFID and Bluetooth.	
Graduate Teaching Assistant , Computer Sciences, Purdue University.	Aug 05-Dec 05
Assisted students with their problems and graded lab assignments in graduate level Operating Systems course.	
Summer Intern , Amazon.com, Seattle, WA.	May 05-Aug 05
Developed a high performance fault tolerant business application with the help of distributed caching and databases	
Graduate Research Assistant , Computer Sciences, Purdue University.	Aug 03-May 05
Worked on issues related to Privacy and Security in Databases	
Summer Intern , Media Lab Asia (Arm of MIT Media Lab, USA), Mumbai.	May 02-Jul 02
Developed and implemented a prototype of a <i>Multilingual & Meaning Based Search Engine</i>	
Research Associate , Center of Studies in Resources Engineering, IIT Bombay.	May 01-Jul 01
Developed and implemented algorithms for registration and analysis of satellite images	

Computer Skills

Programming languages: C/C++, Java, Scheme, LISP, ML, Ruby, Pascal, Fortran, Unix shell programming, VHDL, 8085 and 8086 Assembly language.

Operating Systems: Unix/Linux, Windows, Mac OS X

Databases: Oracle 9i, XPath, XQuery, JDBC, SQL, PostgreSQL, PL/pgSQL, MySQL

Miscellaneous: J2EE and EJB, PHP, Servlets, OpenGL, HTML, XML/XSL, Java Script, CSS, J2ME, BREW

Selected Projects (More Information at <http://sarvjeet.com/projects.shtml>)

- Orion: A Database System for Managing Uncertain Data
- Zecosystem: An infrastructure for context-aware neural environments
- Multilingual and Meaning Based Search Engine
- Phoebes: An Artificial Creativity Engine for Generating Music
- Distributed Banking System
- An Online Stock Exchange
- GUMNAM: A two-way anonymous communication protocol
- Voronoi Diagrams for Moving Object Databases
- Library for threshold signatures
- A Distributed Peer to Peer File Sharing System

Publications

- S. Singh, C. Mayfield, S. Mittal, S. Prabhakar, S. Hambrusch and R. Shah. **The Orion Uncertain Data Management System**. In proceedings of the 14th International Conference on Management of Data (COMAD 2008 Demo), Mumbai, India, Dec 2008.
- S. Prabhakar, R. Shah, S. Singh. **Indexing Uncertain Data**. To appear as Chapter 9 of Charu Aggarwal, ed., *Managing and Mining Uncertain Data*, Springer-Verlag, 2008/9.
- Y. Qi, S. Singh, R. Shah, S. Prabhakar. **Indexing Probabilistic Nearest-Neighbor Threshold Queries**. In proceedings of Workshop on Management of Uncertain Data (MUD, VLDB), New Zealand, Aug 2008.
- S. Singh, C. Mayfield, R. Shah, S. Prabhakar and S. Hambrusch. **Query Selectivity Estimation for Uncertain Data**. In proceedings of 20th International Conference on Scientific and Statistical Database Management (SSDBM 2008), Hong Kong, China, Jul 2008.
- S. Singh, C. Mayfield, S. Mittal, S. Prabhakar, S. Hambrusch and R. Shah. **Orion 2.0: Native Support for Uncertain data**. In proceedings of Special Interest Group on Management of Data (SIGMOD 2008 Demo), Vancouver, Canada, Jun 2008.
- S. Singh, C. Mayfield, R. Shah, S. Prabhakar, S. Hambrusch, J. Neville, R. Cheng. **Database Support for Probabilistic Attributes and Tuples**, In proceedings of the IEEE International Conference on Data Engineering (ICDE 2008), Cancun, Mexico, April 2008.
- S. Singh and S. Prabhakar. **Ensuing Correctness over Untrusted Private Databases**, In proceedings of the 11th International Conference on Extending Database Technology (EDBT 2008), Nantes, France, March 2008.
- S. Singh, C. Mayfield, S. Prabhakar, R. Shah and S. Hambrusch. **Indexing Uncertain Categorical Data**, In IEEE 23rd Conference on Data Engineering (ICDE 2007), Istanbul, Turkey, April 2007.
- R. Cheng, S. Singh, S. Prabhakar, R. Shah, J. Vitter and Y. Xia. **Efficient Join Processing over Uncertain Data**. In the ACM 15th Conf. on Information and Knowledge Management (ACM CIKM), 2006.
- R. Cheng, S. Singh and S. Prabhakar. **U-DBMS: A Database System for Managing Constantly-Evolving Data**. In Very Large Databases Conf. (VLDB 2005 Demo), Trondheim, Norway, Aug 2005
- M. Surve, S. Singh and P. Bhattacharyya. **Agro-Explorer: A Meaning based Multilingual Search Engine**. International Conference on Digital Libraries (ICDL), New Delhi, India, Feb 2004
- P. Bhattacharyya, S. Singh, U. Gundevia, U. Misra and T. Chandra. **A Multi-Lingual, Meaning Based Search Engine**. International Conference on Universal Knowledge and Language, Goa, India, Nov 2002
- S. Mukherji, K.S. Rao and S. Singh. **Registering SAR Interferometric images using cross-correlation**. National symposium on recent advances in Remote Sensing and GIS technologies for Natural Resource Management, Mumbai, India, Dec 2001

Professional Activities

- Program committee member for ICDE 09 demo track.
- External Reviewer for many conferences including SIGMOD 07, VLDB (05,06,07), ICDE (05 - 09), DASFAA (05 - 08), ACM SAC (05, 06), EDBT 09, COMAD 05, MobiDE 05, SSDBM 07 and SSTD 05
- Computer Science Graduate Committee representative and webmaster for Graduate Student board (2005-06)
- Treasurer (2005-06) for Upsilon Pi Epsilon

Honors and Awards

- Awarded the Bilsland Dissertation Fellowship for academic excellence by the Department of Computer Science, Purdue University, 2008-2009
- Selected by College of Science, Purdue University for *Applied Management Principles (AMP)* program offered by Krannert Graduate School of Management, 2007
- Recipient of Verizon Foundation Scholarship for academic excellence, 2005-06
- Member of Upsilon Pi Epsilon (Computer Science Honors Society)
- Awarded Misys Foundation Fellowship for academic excellence in IIT, 2000-03
- Received Merit Award for academic excellence from IIT Bombay for the academic year 1999-2000
- Award travel grant for attending DMSN 05 Workshop held in Trondheim, Norway
- Ranked among the top 0.1% of about 100,000 students appearing for the IIT JEE-99
- Recipient of National Talent Scholarship, India, 1997
- Ranked 10/700 in Bitwise 2K++ Algorithm Intensive Programming Contest (IIT Kgp 2001)