

Alok Watve

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Publications

Under Review:

“Data Transformation for Improved Query Performance”, S. Pramanik, A. Watve, C. R. Meiners and A. Liu - IEEE Transactions on Knowledge and Data Engineering (TKDE)

“Data Independent Vantage Point Selection For Range Queries”, A. Watve, S. Jung, S. Pramanik - International Conference on Very Large Databases (VLDB)

“The BoND-tree: An Efficient Indexing Method for Box Queries in Non-ordered Discrete Data Spaces”, C. Chen, A. Watve, S. Pramanik and Q. Zhu - IEEE Transactions on Knowledge and Data Engineering (TKDE).

Accepted/Published:

“Transforming Range Queries To Equivalent Box Queries To Optimize Page Access”, S. Pramanik, A. Watve, C. R. Meiners and A. Liu. Proceedings of VLDB, 2010, Singapore.

“The C-ND tree: A multidimensional index for hybrid continuous and non-ordered discrete data spaces”, C. Chen, S. Pramanik, Q. Zhu, A. Watve and G. Qian, Proc. of the 12th International Conference on Extending Database Technology: Advances in Database Technology, St. Petersburg, Russia, 2009.

“CNODE: Clustering of Set-valued Non-Ordered Discrete Data”, S. Kumar, A. Watve, S. Sural and S. Pramanik, International Journal of Data Mining, Modeling and Management, 2009.

“Soccer Video Processing for the Detection of Advertisement Billboards”, A. Watve and Shamik Sural, Pattern Recognition Letters, 2008.

“Detection of On-field Billboard Advertisements from Soccer Telecasts”, A. Watve and S. Sural, Proc. of the IEEE International Conference on Visual Information Engineering, Bangalore, India, 2006.

Experience

Amazon.com, Seattle, Washington, USA

Position : Software Development Engineer - Intern (Summer 2010)

Technologies worked on : Java, JSP, Perl-Mason

I was working with the Fulfillment By Amazon (FBA) team. The team is responsible for all the software that third-party merchants (FBA-clients) use to manage their inventory

and orders. I worked on improving the existing merchant removal system for accurate error reporting and adding more features.

Project Brahma, www.projectbrahma.org

Position : Volunteer programmer (July 2010 - December 2010)

Technologies worked on : PHP

Project Brahma is a wiki project based on Mediawiki platform, driven by volunteers all around the world. The objective is to document India's bio-diversity and to make it searchable through semantic database search tools (which come as a standard mediawiki feature). I volunteered to develop several mediawiki extensions which can be used as tools for projectbrahma. The tools are meant to simplify inserting and editing data for volunteers who are mostly non-programmers.

Some of the tools we developed include:

- Auto generation of SVG maps highlighting certain regions (i.e. states)
- Access other free information sources (through their web services) and populate data on the website.
- Detect and index various features/properties of the data for semantic searching.

D. E. Shaw India Software Pvt. Ltd., Hyderabad, India

Position : Member - Information Technology (Jul 2006 - May 2007)

Technologies worked on : Java, Perl

Developed client software to connect to Wombat Feed Handler to parse data feeds coming for security exchanges. Also worked on some in-house projects.

Michigan State University, East Lansing, MI

Position: Research Assistant (RA) and Teaching Assistant (TA)

I was as an RA with Dr. Sakti Pramanik. We worked on the problem of clustering high dimensional data with Non-Ordered Discrete Dimensions (such as genome sequences)

I have twice worked as a TA for Dr. Pang Ning Tan for the undergraduate course in Database Systems (CSE 480).

I have worked thrice as a TA for Dr. Bill Punch/Dr. Richard Enbody as a TA for the undergraduate course in programming with Python (CSE 231).

Education

Currently enrolled at Michigan State University, East Lansing for Ph.D. in Computer Science and Engineering

Current GPA - 3.9/4.0

Expected date of graduation - May 2012

2006 Indian Institute of Technology, Kharagpur
Master of Technology (M. Tech.) in Information Technology
CGPA 9.64 /10.0

2004 Mumbai University, Mumbai
Bachelor of Engineering (B.E.) in Information Technology
Percentage of marks: 70.0 % (First class with distinction)

2000 Atomic Energy junior college Anushaktinagar, Mumbai

HSC (Higher Secondary School Certificate)
Aggregate percentage of marks: 92.33 % (First class with distinction)

1998 New Bombay High School, Vashi, New Mumbai
SSC (Secondary School Certificate)
Percentage of marks: 88.66 % (First class with distinction)

Theses and Academic Projects

- Ph.D. Thesis - Indexing high dimensional databases.
My Ph.D. thesis focuses on improving the performance of an index structure through data transformation techniques. The work involves theoretical modeling of multi-dimensional index to identify factors responsible for redundant disk accesses. We then use data transformation to eliminate such factors. Our VLDB 2010 paper presents this idea. One journal paper on the same topic is currently under review and one more manuscript is under preparation.
- M. Tech. Thesis - Detection of on-field advertisement billboards in soccer telecasts at the School of Information Technology, IIT Kharagpur.
Objective of the project is to track advertisements in soccer video footage to find out time (and size) for which an advertisement billboard was shown. It is a pattern recognition based application, which uses domain knowledge and properties of videos for object detection and tracking. System was developed in C.
- B.E. Project - Local Network Monitoring System at Bhabha Atomic Research Center (BARC) Anushaktinagar, Mumbai.
The system scans the selected hosts in a LAN using port scanner and makes a database (in postgresQL) of the gathered data. User can query the database to detect inconsistencies or abnormalities. The system was developed in C. GUI was developed using JAVA Swing.

Academic Honors

- All India rank of 25 (99.74 percentile) in GATE (Graduate Aptitude Test in Engineering)
- Two silver medals and a gold medal for excellence in Mathematics, Science and Sanskrit
- Received National Talent Search (NTS) Scholarship in 1998
- Received JRD Tata scholarship in 2002 and 2003

Computer Skills

- Well-versed with C/C++, Java
- Fluent with Perl, Python (2.X)
- Have worked with PHP, Matlab, Mathematica
- Have been a full time Linux user for last 5 years.
- Databases : Oracle, Mysql, PostgreSQL
- Comfortable with IDEs Eclipse and KDevelop and have some experience with Microsoft Visual Studio
- Fluent with LaTeX and Kile (IDE for Latex)

Other Activities

- Volunteered for International Students Orientation at MSU during Fall 2009.
- Installed and administered Oracle database server for course CSE880 (Spring 2008 and Fall 2009)
- Web Coordinator of MSU Indian Student Organization during the year 2008-09
- General Secretary - Maintenance, of J. C. Bose hall of residence, IIT Kharagpur
- Placement Representative of School of Information Technology
- Participated in IBM Master the Mainframe contest and won prizes
- Represented J C Bose hall of residence in several inter-hall competitions such as biz-quiz, product design competition, inter-hall maths Olympiad etc.

References

Dr. Shamik Sural, Professor, School of Information Technology, IIT Kharagpur, India.
Email: shamik@sit.iitkgp.ernet.in

Dr. Bill Punch, Associate Professor, Computer Science and Engineering, Michigan State University, East Lansing, MI, USA.
Email: punch@cse.msu.edu

Dr. Sakti Pramanik, Professor, Computer Science and Engineering, Michigan State University, East Lansing, MI, USA.
Email: pramanik@cse.msu.edu