

Bhargav Kanagal Shamanna

- CONTACT INFORMATION** Google *Cell Phone:* (650) 605-5923, (248) 719-1726
1600 Amphitheater Pkwy *E-mail:* bhargav@google.com
Mountain View, CA 94043 *WWW:* <http://www.cs.umd.edu/~bhargav>
- WORK EXPERIENCE**
- Google** (July 2012 to present)
I am a software engineer in the strategic technologies group at Google. Here, I work on developing systems for personalizing various Google products.
- Yahoo! Research** (Sep 2011 to July 2012)
I was a research scientist in the computational advertising group at Yahoo! Research. I worked on problems in personalized advertising and recommender systems. We developed algorithms for personalizing ads for users based on their product purchases.
- RESEARCH INTERESTS** Computational Advertising, Probabilistic Databases, Recommender Systems, Probabilistic Inference, Maching Learning
- EDUCATION**
- University of Maryland**, College Park, Maryland - 20770 USA
PhD in Computer Science (2005-2011)
- Advisor: Dr. Amol Deshpande
 - Thesis: Scalable Statistical Modeling and Query Processing over Large Scale Uncertain Data
- University of Maryland**, College Park, Maryland - 20770 USA
MS in Computer Science (2005-2007)
- Advisor: Dr. Amol Deshpande
 - Thesis: Online Filtering, Smoothing and Probabilistic Modeling of Streaming Data
- Indian Institute of Technology Madras**, Chennai, India
B.Tech., Computer Science & Engineering, May 2005
- Thesis: Kernel Methods for Speech Recognition
 - Minor: Operations Research
- PUBLICATIONS**
- On Strategies for Evaluating Boolean Formulas.* Nilesh Dalvi, Bhargav Kanagal, Ravi Kumar. In submission.
- Focused Collaborative Filtering For Advertising Campaigns.* Bhargav Kanagal, Amr Ahmed, Sandeep Pandey, Vanja Josifovski, Lluís Garcia-Pueyo, Jeff Yuan. *29th IEEE International Conference on Data Engineering, ICDE 2013, Brisbane, Australia, April 8-11, 2013*
- Latent Factor Models with Additive Hierarchically-smoothed Preferences.* Amr Ahmed, Bhargav Kanagal, Sandeep Pandey, Vanja Josifovski, Lluís Garcia-Pueyo, Jeff Yuan. *Sixth ACM International Conference on Web Search and Data Mining, WSDM 2013, Rome, Italy, February 4-8, 2013. ACM 2013*
- Supercharging Recommender Systems using Taxonomies for Learning User Purchase Behavior.* Bhargav Kanagal, Amr Ahmed, Sandeep Pandey, Vanja Josifovski, Lluís Garcia-Pueyo, Jeff Yuan. *Proceedings of the VLDB Endowment VLDB 2012, Istanbul, Turkey, August 27-31, 2012*
- Sensitivity Analysis and Explanations for Robust Query Evaluation in Probabilistic Databases.* Bhargav Kanagal, Jian Li, Amol Deshpande. *Proceedings of the ACM SIGMOD International Conference*

on Management of Data, SIGMOD 2011, Athens, Greece, June 12-16, 2011.

Rank Selection in Low-rank Matrix Approximations: A Study of Cross-Validation for NMFs. Bhargav Kanagal, Vikas Sindhwani. *Low-rank Methods for Large-Scale Machine Learning Workshop, NIPS 2010*

Lineage Processing over Correlated Probabilistic Databases. Bhargav Kanagal, Amol Deshpande. *Proceedings of the ACM SIGMOD International Conference on Management of Data, SIGMOD 2010, Indianapolis, Indiana, USA, June 6-10, 2010.*

Indexing Correlated Probabilistic Databases. Bhargav Kanagal, Amol Deshpande. *Proceedings of the ACM SIGMOD International Conference on Management of Data, SIGMOD 2009, Providence, Rhode Island, USA, June 29 - July 2, 2009.*

Efficient Query Evaluation over Temporally Correlated Probabilistic Streams. Bhargav Kanagal, Amol Deshpande. *Proceedings of the 25th International Conference on Data Engineering, ICDE 2009, March 29 2009 - April 2 2009, Shanghai, China*

Online filtering, smoothing and probabilistic modeling of streaming data. Bhargav Kanagal, Amol Deshpande. *Proceedings of the 24th International Conference on Data Engineering, ICDE 2008, April 7-12, 2008, Cancun, Mexico.*

Defining and Enforcing C's Module System. Saurabh Srivastava, Michael Hicks, Jeffrey S Foster, and Bhargav Kanagal. **UMD Technical Report CS-TR-4816.**

WORKING PAPERS *Declarative Meta Learning using Map-Reduce.* In this manuscript, I describe the challenges involved in implementing large-scale cross-validation and ensemble learning over MapReduce and the design of the system that we built for scalably executing them over a Hadoop cluster.

Capturing Trends from High Dimensional Time Series data: Guaranteed display advertising applications require an accurate real-time forecast of the number of user visits. In this manuscript, I develop algorithms for this problem by learning trends from the high dimensional impression logs.

AWARDS

Jacob K Goldhaber Travel Award from the Graduate School, University of Maryland (2011)

SIGMOD Travel Award from ACM SIGMOD (2011)

Dean's Fellowship from the Dept. of Computer Science, University of Maryland (2009-2010)

2 year Graduate School Fellowship (Block Fellowship) from the University of Maryland (2005-2007)

IBM Extreme Blue Summer Intern 2004

Ranked 56th in All-India Joint Entrance Examination 2001 for IITs

Certificate of Merit (for the 20 best incoming students) to IIT Madras in 2001.

National Talent Scholar (Awarded to 750 students in India). Ranked 1st for state in National Talent Search Examination 1999.

Qualified in the Indian National Physics and Mathematics Olympiads. Ranked 2nd for state in Regional Mathematical Olympiad.

INTERNSHIPS (GRADUATE)

Yahoo! Research, Santa Clara, CA

September 2010 - December 2010

- Topic: *Computational Advertising*, Mentor: Dr. Jayavel Shanmugasundaram

I worked on learning trends from high dimensional time series data for accurate online forecasting of the number of user-visits (satisfying a given criteria) on a Yahoo! property, which is a fundamental

problem in Guaranteed Display Advertising.

IBM Research, San Jose, CA

May 2010 - August 2010

- Topic: *Large-Scale Machine Learning*, Mentor: Dr. Berthold Reinwald

I developed scalable techniques for the implementation of Meta Algorithms (such as cross-validation and ensemble learning) over a Hadoop cluster. This project is in the context of *SystemML*, a large-scale machine learning system currently being developed at IBM.

Microsoft Research (DMX Group), Redmond WA

May 2007 - August 2007

- Topic: *Query Optimization in Database systems*, Mentor: Dr. Ravi Ramamurthy

I worked in the *AutoAdmin* project in the DMX group. My project broadly dealt with the automated statistics construction and management policies for query optimization in SQL server.

INTERNSHIPS
(UNDERGRAD)

IBM India Extreme Blue Summer Internship

May 2004 - August 2004

- Topic: *e-Appliance*, Mentor: Mr. Amol Mahamuni

I worked on the *e-Appliance* project, which aimed at the appliance-based delivery of manageable software infrastructure for e-business applications.

Strand Genomics Ltd, Bangalore India

May 2003 - August 2003

- Topic: *Computer Science*, Mentor: Dr. Ramesh Hariharan

I implemented the *Random Walk* clustering algorithm for AVADIS, a software that has been marketed by Strand since 2003.

TEACHING
ASSISTANTSHIP

University of Maryland, College Park

CMSC 724 Graduate Database Systems course

Current – Spring 2011

CMSC 212 Introduction to low level programming

Fall 2005

CMSC 102 Introduction to Information Technology

Spring 2006

Duties involved participation in the designing of the course, teaching and discussion sessions for students and their evaluation and grading.

Indian Institute of Technology, Madras

CS 110 Introduction to Computer Science.

Fall 2004, Spring 2005

I was selected as a TA for CS110 (Introduction to computing) 3-credit freshman course for the year 2004-2005 at IIT-Madras. My work involved weekly lab slots, tutorial sessions, and evaluation.

REFERENCES

Dr. Amol Deshpande
Associate Professor
Department of Computer Science
University of Maryland, College Park
3221 A.V. Williams Bldg College Park MD 20742
phone:301-405-2703
e-mail:amol@cs.umd.edu

Dr. Lise Getoor
Associate Professor
Department of Computer Science
University of Maryland, College Park
3217 A.V. Williams Bldg College Park MD 20742
phone: 301-405-2691
e-mail:getoor@cs.umd.edu

Dr. Berthold Reinwald
Research Staff Member
IBM Almaden Research Center
650 Harry Rd, San Jose, CA 95120
phone: (408) 927 2208; T/L: 457 2208
e-mail: reinwald@almaden.ibm.com

Dr. Vanja Josifovski
Google
1600 Amphitheater Pkwy, Mountain View, CA
94043
phone: 408-203-9356
e-mail: vanjaj@google.com

Dr. Jayavel Shanmugasundaram
Member of the Technical Staff
Google
San Francisco CA
phone: 408-507-9387
e-mail:jayavel.shanmugasundaram@acm.org

CITIZENSHIP/VISA STATUS Citizen of India, on H-1B