Vishvas Vasuki

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Formal Education

University of Texas Austin — Computer Science
MS with GPA 3.7. — Dec, 2010

- *Relevant coursework:* Computational Learning Theory, Numerical Analysis: Linear Algebra, Sparsity Structure and Algorithms, Randomized Algorithms, Nonlinear Programming, Data Mining.

Vishveshvariah Technological University, India — Computer Science and Engineering
BE. *First class with distinction.* — Jul, 2003

Publications

Ali Jalali, Pradeep Ravikumar, Vishvas Vasuki, and Sujay Sanghavi. On learning discrete graphical models using group-sparse regularization. In *JMLR Workshop and Conference Proceedings: AISTATS 2011*, volume 15, 2011. pdf, bib.

SmartDetect Project Team. Wireless sensor networks for human intruder detection. *Journal of the Indian Institute of Science*, Vo. 90, No. 3:pp. 347–380., 2010. pdf, bib.

Vishvas Vasuki, Nagarajan Natarajan, Zhengdong Lu, and Inderjit.S Dhillon. Affiliation recommendations using auxiliary friendship networks. In *RecSys '10: Proceedings of the third ACM conference on Recommender systems*, Barcelona, Spain, 2010. pdf, bib.

Vishvas Vasuki, Nagarajan Natarajan, Zhengdong Lu, Berkant Savas, and Inderjit.S Dhillon. Scalable affiliation recommendations using auxiliary friendship networks. *ACM Transactions on Intelligent Systems and Technology special issue on Social Recommender Systems*, 2011. pdf, bib.

Research

MIT-SVS
Researcher — Apr 2017 to present
Sanskrit language processing

Honda Research Institute USA via TriCom Quest — Mountain View, CA
Research Intern — Jan 2012 to Jun 2012
Product prototyped: Spoken Dialog System for interactive navigation. *Activities:* Scaling-up the parser to work with large database of entities (cut running time from O(n) to O(1)). Tuning belief tracking system. Assisted with demostrating this complex system on an Android device. Probabilistic graphical models and neural networks were used. Involved working with Java, Scala, C and Python code.

University of Texas Austin — Department of Linguistics
Volunteer Research Assistant — Jun 2011 to Jan 2012
Topic: Bootstrapping a Part of speech tagging using tag dictionaries. *Techniques:* Modeled context using Directed graphs and Hidden Markov Models. Used EM with Label Propagation to exploit untagged data.

University of Texas Austin — Department of Computer Sciences
Research Assistant — Jul 2009 to Dec 2010
Problems considered: Learning discrete graphical models, devising realistic network generation models, building recommender systems which use information from auxiliary social networks, gene-disease link discovery.
Activities included: Literature survey, identifying problems of interest, modeling and some theoretical analysis, designing experiments, tinkering and finding solutions, prototyping algorithms, presenting ideas and results, assisting in grant applications. The research involved collaboration and some mentoring.

University of Massachusetts Amherst — Computer Science Department
Research Assistant — Sep 2007 to Dec 2007
Topic: Use of homology information in improving ab-initio Protein Structure Prediction.
My role involved: Literature survey, developing a research plan and contributing to the prediction software.

Indian Institute of Science — Electrical Communications Engineering
Project Assistant — Nov 2006 to Mar 2007
Topic: The use of wireless sensor networks in detecting, classifying and tracking various objects.
My role: To evaluate sensing, routing and scheduling algorithms by simulation, and by actual deployment.

Software engineering

Google Inc. YouTube
Software Engineer Jun 2012 to Apr 2017
Product: YouTube Spam and Abuse classifiers, Ad inventory classifiers.
Role: I built, evaluated and deployed several machine learning models. Mostly text features, linear models and neural networks (Google Brain). *Auxiliary initiatives:* Pointed out and fixed problems in Indic language products (Eg. OCR, Google indic IME-s).

Microsoft Windows Group
Software Development Engineer Feb 2006 to Aug 2006
Product: Java terminal services client deployed on **Microsoft Windows Storage Server 2003**. Starting from scratch, we delivered an early version of the product in six months.
Role: I developed and owned the input-handling and packet-framing modules.

Infosys PLM Group
Software Engineer Jul 2003 to Dec 2004
Products: Ematrix's Product Central, a machine-part management system for Porsche.
Role: I implemented fresh features, fixed bugs, did some testing, produced technical documentation, maintained the bug-tracking (bugzilla) portal, made UI mock-ups, participated in design, and reviewed code. *Self-driven initiatives:* Writing software for bug-notification, synchronizing bug databases and ranking employees based on minimal input.

Code samples/ Open Source projects

- Started various Sanskrit Natural Language Processing projects. *Language*: Scala, Java, Python.
  Highlights Published several sanskrit dictionaries, created a mobile app to conveniently install them.
- Part of speech tagging bootstrapped with wiktionary. *Language*: Scala
- Minor contributions to ParallelColt (An efficient scientific computing library in Java).
- Software for early research: See website. *Language*: Matlab, R.

Technical Skills

- **Recent Experience:** Python, C++, Scala, Java.
- **Past Experience:** Matlab, R, LaTeX, C, C#, VB, C++, 8086 assembly language, NesC/ TinyOS, JSP, Rational Rose, SQL, E-Matrix's PLM suite, JavaScript, PERL. **Web-server environments:** Apache, Weblogic, Websphere, Tomcat. **Frameworks and standards:** log4j, XML, CSS, JUNIT, ANT.

Honors and Scholastic achievements

- **Merit scholarship** from the State Bank of Mysore. *Microelectronics and Computer Development Fellowship* UT 2007 (Declined). *Deans Excellence Award* UT 2007 (Declined).
- **Standardised tests:**
  GRE 09/2011 Verbal: **170/170**, Quant: **166**. Analytical Writing: **4.5/6** - 99, 94, 72-th %iles.
  GRE 07/2006 Verbal, Quant: **800/800**. Analytical Writing: **5.5/6**. -99, 94, 96th %iles.
  Computer Science GATE 2007: 99th percentile [Rank 181] [1]
- *madhyamA* in Sanskrit and Hindi.

Teaching

University of Texas Austin Department of Computer Sciences
Teaching Assistant Jan 2008 to Dec 2010
My duties have included grading, making grading rubrics, proctoring exams, holding office hours and leading discussion sections. I was TA for the following courses: *Learning Theory*(CS395T), Fall '10. *Numerical Analysis: Linear Algebra*(CS383C), Fall '09. *Contemporary issues in Computer Science* (CS349), Spr '09. *Analysis of Programs* (CS336), Fall '08. *Foundations of Computer Science* (CS307), Spr '08.

Talks

- Affiliation recommendation using auxiliary social networks, RPE, Fall 2010, UT Austin.
- Least Angle Regression algorithm, Data Mining course, Fall 2009, UT Austin.
- Ky Fan (p, k) norms, April 2009, Data mining lab, UT Austin.

Service and Membership in Professional Societies

- **SIAM: Society for Industrial and Applied Mathematics** Fall 2008 to Fall 2010.

[1] This annual national level exam tests computer science knowledge in over 17,000 (in 2007) candidates to help postgraduate admissions.

SIAM Activity Group on Discrete Mathematics
SIAM Activity Group on Computer Science and Engineering

- **University of Texas Libraries Committee** : Alternate representative of the Graduate Students Assembly. Fall 2008 to 2009.
- **University of Texas Graduate Student Assembly** : Administrative officer. Summer 2009 to 2010.

Personal Details

- **Avocation:** Sanskrit, Poetry, shAstra, Nature, Hiking, Socio-cultural discourse.
- **Human languages:** English, Spoken samsk.rta, kannaDa, hebbAr tamiL, hindI.
- **Citizenship:** India.