MURALIKRISHNA S

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EDUCATION

- **PhD in Machine Learning of Activities from Video**
  Dept. of Computing, University Of Leeds**,** UK, Apr 07 - Ongoing.
  Title: Learning Activities from Video.
  Supervisors: Prof. Anthony Cohn and Prof. David Hogg.

- **M.Sc by Research in Machine Learning**
  Dept. of Computer Science, Royal Holloway, University of London**,** UK, Sep 03 - Sep 04.
  Research Project
  Title: Unsupervised Learning of Semantic Concepts and Associations from text corpus.
  Advisor: Dr.Chris Watkins
  Summary: My Research Project aimed at learning Semantic Concepts automatically from a text corpus. Concepts are abstracted from text by building relationships between words so that words embodying concepts are grouped together. Unsupervised learning is used to learn word to word relationships in a multidimensional space. Supervised learning is then used to generalise these relationships that are evaluated using TOEFL tests. The performance was found to be superior to Word-Spaces resulting from existing techniques.

- **Masters in Computer Applications, Jahawarlal Nehru University** — India
  School of Computer and System Sciences, Jun 98 - May 01.

- **BSc Mathematics, Vivekananda College, Madras University** — India
  Department of Mathematics, Jun 95 - May 98.

PROFESSIONAL EXPERIENCE

- **Hewlett-Packard Labs** — India
  Research Consultant: Pen and Handwriting Recognition Team, Jan 05 - Apr 07
  Role:
  Lead of the Shape Recognition Project at HP Labs. This project aims at advancing pen-based interfaces by developing robust, generic and adaptive algorithms for the recognition of handwritten characters and gestures.
  Work and Achievements:
  1. Generic Shape Recognition:
  I have lead the Generic Shape Recognition Project, the objective being to build a state of the art recognizer for a diverse set of shape sets. This work aimed at building a powerful hybrid generative/discriminative classifier by advancing the state of the art kernel methods for shape recognition. This effort has resulted in a shape recognition system whose accuracies exceed those of published state of the art techniques. I am the lead author of the journal paper (to be submited soon) that describes this work.
  2. Adaptive Small Sample Shape Recognition:
  Developed an adaptive shape recognition system for gesture based human computer interfaces. Investigated transfer learning based approaches to address adaptation and the small sample size encountered in building such a system.
  3. Research Talks and Tutorials at HP Labs:
  I have given tutorials on machine learning and delivered research talks on topics such as statistical learning theory, kernel methods, mathematical foundations of learning.

- **AU-KBC Research Centre**—India
  Project Associate, Natural Language Processing Team, February 2002-January 2003
  Role:
  Responsible for the overall design and implementation of a Text to Speech System for

Tamil Language.

Work and Achievements:

The real time system implemented in Perl was applied in the domain of Railway Enquiry and Directory announcements.

- **HCL Perot Systems, India**—India

  Project Associate, Lufthansa Cargo Project, February 2001-December 2001

  Role:

  As a software engineer working on the Lufthansa Cargo Project, I Implemented a Queing algorithm for scheduling flight cargo.

  Work and Achievements:

  Successfully implemented a priority Que., which determines a customer's position considering several factors that influence his priority.

PUBLICATIONS

- Muralikrishna Sridhar, Dinesh M and Mehul P, Active-DTW : A Generative Classifier that combines Elastic Matching with Active Shape Modeling for Online Handwriting Recognition, IWFHR 10, Oct 2006.
- Sriganesh Madhvanath, Muralikrishna Sridhar, Deepu.V, Thanigai.M, LipiTk: A Generic Toolkit for Online Handwriting Recognition. HP TechCon, India, November 2005.
- Muralikrishna S, Deepu V, Dinesh M and Sriganesh M, A Generic Approach for Handwritten Shape Recognition. HP Labs Technical Report, Sept 2005.
- Muralikrishna S, Deepu V, Dinesh M and Sriganesh M, An analysis of kernel methods for shape recognition,(submitting to PAMI)
- Muralikrishna S, A banding-based time series kernel, (submitting to ICML)

ACCOMPLISHMENTS

- Awarded by TechCon India for "technology leadership and innovation of a high order" as a recognition of my performance at HP Labs during the year 2005.
- Awarded Second prize in Real and Complex Analysis at the University level Mathematics Talent Exam, 1998.
- Awarded "Ramanujam Shield" in Mathematics Talent Competition hosted by Anna University, Madras, India, 1997.
- First Prize in Intercollegiate Mathematics Talent Competition at Anna University, Madras, India, 1997.
- First Prize in Mathematics Olympiad at the Intercollegiate Level Conducted by IIT- Madras, India, 1996.
- First Prize in Mathematics Talent Search Contest from Rotary Public, Madras, 1994.

COMPUTER SKILLS

- **Operating Systems:** Linux (Gentoo, Red Hat, and Debian), Mac OS 9 and X, UNIX (several variants), Windows 98/2000/XP.
- **Programming Languages:** Proficient in MATLAB, Perl, C, C++.

OTHER ACTIVITIES

- Served as the Secretary of Mathematics Association at Vivekananda College Madras, India, 1998.
- Attended Advanced Mathematics Workshop in Mathematics organized by the Department of Mathematics, I.I.T Bombay, India, 1998.
  - Mentored five Intern students for research projects HP Labs India.

HOBBIES AND INTERESTS

- I have given both solo and group Flute performances at various cultural festivals at Delhi.
- I am a keen sportsman, especially Tennis, Cricket and Mountain Biking.
- I enjoy Reading, Cinema and going to Music festivals.
- My long-term interest is travelling and I try to visit a few new places every year.