

Sudheendra Vijayanarasimhan

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EDUCATION

University of Texas at Austin, Austin, TX
5th year Ph.D student, August 2006 - Current
Thesis: Active Visual Category Learning
Supervised by Prof. Kristen Grauman
GPA: 3.758/4.0

Indian Institute of Technology Madras, Chennai, India
B.Tech in Computer Science and Engineering
Thesis: A Study of the Memory Performance of Systems
Supervised by Prof. Kamakoti V.
GPA: 8.82/10.0

RESEARCH INTERESTS

Object recognition, detection and segmentation, Supervision requirements in learning: Active learning, Unsupervised, Semi-supervised learning, Machine learning and applications in Computer vision.

APPOINTMENTS

Research Assistant (2008-current):

Department of Computer Sciences, University of Texas at Austin
Proposed and implemented several multiple-instance learning and active learning based techniques for object categorization.

Research Intern (Summer 2009):

Adaptive Systems and Interaction Group, Microsoft Research, Redmond
Proposed and implemented a novel object detection model that enables active feature selection during detection.

Research Assistant (2004-2006):

Department of Computer Sciences, Indian Institute of Technology, Madras, India
Quantified the effect of register spills on the memory performance of x86 systems using the SimpleScalar simulator on the Spec95 benchmark programs.

Intern (Summers 2005, 2004):

Intel, Design and Testing Group, Bangalore, India
Studied and implemented an approach that statically finds new implications in a circuit using contrapositivity and incorporated it into an existing ATPG engine to aid fault propagation and justification.

TEACHING EXPERIENCE

Teaching Assistant (Spring 2010):

Assisted Prof. Grauman for a graduate course (Object Recognition) and graded assignments.

Teaching Assistant (Fall 2007):

Assisted Prof. Grauman for a graduate course (Computer Vision) and graded assignments, projects and finals.

PUBLICATIONS

BOOK CHAPTERS

S. Vijayanarasimhan and K. Grauman. Minimizing Annotation Costs in Visual Category Learning. Under review for invited chapter in Cost-Sensitive Machine Learning, CRC Press 2010.

JOURNAL PUBLICATIONS

S. Vijayanarasimhan and K. Grauman. Cost-sensitive Active Visual Category Learning, TO APPEAR IN International Journal of Computer Vision (IJCV) 2010.

REFEREED CONFERENCE PAPERS

S. Vijayanarasimhan and K. Grauman. Large-scale Live Active Learning: Training Object Detectors with Crawled Data and Crowds (**oral presentation, 3.5% acceptance rate**), To Appear in CVPR 2011, June.

S. Vijayanarasimhan and K. Grauman. Efficient Region Search for Object Detection, To Appear in CVPR 2011, June.

P. Jain, S. Vijayanarasimhan, and K. Grauman. Hashing Hyperplane Queries to Near Points with Applications to Large-Scale Active Learning , Advances in Neural Information Processing Systems (NIPS), Vancouver, Dec 2010.

S. Vijayanarasimhan, P. Jain and K. Grauman. Far-Sighted Active Learning on a Budget for Image and Video Recognition , In Proceedings of the IEEE Conference on Computer Vision and Pattern Recognition (CVPR), San Francisco, June 2010.

S. Vijayanarasimhan and A. Kapoor. Visual Recognition and Detection Under Bounded Computational Resources , In Proceedings of the IEEE Conference on Computer Vision and Pattern Recognition (CVPR), San Francisco, June 2010.

S. Vijayanarasimhan and K. Grauman. “What’s It Going to Cost You?: Predicting Effort vs. Informativeness for Multi-Label Image Annotations” , In Proceedings of the IEEE Conference on Computer Vision and Pattern Recognition (CVPR), Miami, June 2009.

S. Vijayanarasimhan and K. Grauman. Multi-Level Active Prediction of Useful Image Annotations for Recognition. Advances in Neural Information Processing Systems (NIPS), Vancouver, Canada, December 2008. (**oral presentation, 3% acceptance rate**)

S. Vijayanarasimhan and K. Grauman. Keywords to Visual Categories: Multiple-Instance Learning for Weakly Supervised Object Categorization. In Proceedings of the IEEE Conference on Computer Vision and Pattern Recognition (CVPR), Anchorage, AK, June 2008.

WORKSHOP PROCEEDINGS

S. Vijayanarasimhan and K. Grauman. Top-Down Pairwise Potentials for Piecing Together Multi-Class Segmentation Puzzles , In IEEE workshop on Perceptual Organization in Computer Vision 2010.

TALKS AND INVITED WORKSHOPS

Perceptual Organization in Computer Vision, SFO, June 2010

Top-Down Pairwise Potentials for Piecing Together Multi-Class Segmentation Puzzles

The Learning Workshop, Clearwater, FL, April 2009

Cost Sensitive Active Visual Category Learning

Neural Information Processing Systems, Vancouver, Canada, Dec 2008

Multi-Level Active Prediction of Useful Image Annotations

Semantic Robot Vision Challenge Workshop, Anchorage, June 2008

Keywords to Visual Categories: Multiple-Instance Learning for Weakly Supervised Object Categorization

PATENTS

Resource-Aware Computer Vision. (Under review)

SERVICE

- Program committee for IEEE International Conference on Computer Vision (ICCV) 2011
- Program committee for IEEE Computer Vision and Pattern Recognition (CVPR) 2011
- Program committee for Budgeted Learning Workshop (in ICML) 2010
- Program committee for IEEE International Conference on Computer Vision (ICCV) 2009
- Program committee for IEEE Computer Vision and Pattern Recognition (CVPR) 2009

AWARDS AND ACHIEVEMENTS

- Bert Kay Outstanding Thesis award from Department of Computer Sciences at UT, Austin 2010
- Dean's Excellence Award from the College of Natural Sciences at UT, Austin
- Microelectronics and Computer Development Fellowship, Department of Computer Science, UT, Austin awarded to the top 10% of incoming students
- Deans Award (IITM) for securing high rank in JEE
- 3rd in Google sponsored Shaastra Programming Contest, an inter-collegiate event in IIT Madras.
- Merit certificate and scholarship for being in the top 0.1% in the 12th CBSE board
- IIT-JEE AIR (All India Rank) 28 among 150000 students
- Top 1% among 22,000 students in the Physics Olympiad held at National Level by Indian Association of Physics in 2000