

# Abhinav Gupta

---

CONTACT INFORMATION      9348 Cherryhill Rd Apt. 327      *E-mail:* agupta@cs.umd.edu  
College Park      *Voice (O):* (301) 405-8368  
MD 20740 USA      *Voice (M):* (202) 262-5403

RESEARCH INTERESTS      Semantically Coherent Interpretation of Images and Videos.  
Automatic Image Annotation.  
Pose Estimation Under Severe Occlusions.  
Multiple Camera Tracking Algorithms.

EDUCATION      **University of Maryland**, College Park, Maryland USA  
Ph.D., Computer Science, August 2009 (expected graduation date)  
Advisor: Prof. Larry S. Davis  
GPA: 4.0/4.0  
**University of Maryland**, College Park, Maryland USA  
M.S., Computer Science, May 2007  
GPA: 4.0/4.0  
**Indian Institute of Technology**, Kanpur, India  
B.S., Computer Science and Engineering, May 2004  
Dissertation Topic: “Computational Models for Object Detection and Recognition”  
Advisor: Prof. Amitabha Mukerjee  
GPA: 9.5/10.0

PUBLICATIONS      **Journal**  
  
Abhinav Gupta, Anurag Mittal and Larry S. Davis. *Constraint Intergration for Efficient Multi-view Pose Estimation with Self-Occlusions*. IEEE Transactions on Pattern Analysis and Machine Intelligence, vol. 30, no. 3, pp. 493-506, Mar., 2008

## Selected Conferences <sup>1</sup>

Abhinav Gupta, Trista Chen, Francine Chen, Don Kimber and Larry S. Davis. *Context and Observation Driven Latent Variable Model for Human Pose Estimation*. To Appear in CVPR 2008.

Abhinav Gupta, Anurag Mittal and Larry S. Davis. *COST\*: An Approach for Camera Selection and Multi-Object Inference Ordering in Dynamics Scenes*. In IEEE ICCV 2007.

Abhinav Gupta and Larry S. Davis. *Objects in Action: An Approach for Combining Action Understanding and Object Perception*. In IEEE CVPR 2007.

---

<sup>1</sup>Acceptance Ratios around 15-25%

## Other Conferences

Abhinav Gupta, Anurag Mittal and Larry S. Davis. *Constraint Integration for Multiview Pose Estimation of Humans with Self-Occlusions*. In Third International Symposium on 3D Data Processing, Visualization and Transmission (3DPVT 2006).

Abhinav Gupta, V. Shiv Naga Prasad and Larry S. Davis. *Extracting Regions of Symmetry*. IEEE International Conference on Image Processing (ICIP 2005).

Ashutosh Saxena, Abhinav Gupta and Amitabha Mukerjee. *Non-Linear Dimensionality Reduction by Locally Linear Isomaps*. ICONIP 2004.

Abhinav Gupta and Phalguni Gupta. *Watermarking of MPEG-4 Videos*. ICBA 2004.

### PROFESSIONAL EXPERIENCE

**Fuji-Xerox Palo Alto Laboratory**, Palo Alto, CA

*Research Intern*

**May 2007 - August 2007**

Topic: Real time body tracking using non-linear dimensionality reduction.

**Siemens Corporate Research**, Princeton, NJ

*Research Intern*

**May 2005 - August 2005**

Topic: Human Pose Estimation using Multiple Cameras

**Ruksun Software Technologies**, Pune, India.

*Organizer and Instructor*

**June 2004**

Training Workshop on Computer Vision.

**Ecole Polytechnique Federale de Lausanne**, Lausanne, Switzerland

*Summer Intern*

**May 2003 - July 2003**

Topic: Analysis of Semantic Understanding of Videos using EEG signals.

**Media Labs Asia**, Mumbai

*Summer Intern*

**May 2002 - July 2002**

Topic: Developing Devanagiri Text Input Device.

### OTHER RELEVANT PROJECTS

Detection and Tracking of Objects

Spring 2005

Subjective Evaluation for Perceptual Quality of Segmented Videos

Summer 2003

Single Camera Multiple Person Tracking using Logical Reasoning

Spring 2003

Human Activity Recognition using Skeletonization

Fall 2002.

### RELEVANT COURSEWORK

**Computer Vision:** Image Segmentation, Approaches to Representing and Recognizing Objects, Processing of Pictorial Information, Biomedical Signal Processing.

**AI and Robotics:** Introduction to Artificial Intelligence, Introduction to Robotics, Knowledge Discovery, The Computational Brain.

**Mathematics:** Advanced Matrix Theory, Computational Geometry, Numerical Analysis, Scientific Computing, Discrete Mathematics.

**Psychology:** Introduction to Psychology, Human Perception and Performance, Social Cognition.

## HONORS

Deans Fellowship 2004-05 at University of Maryland.

Academic Excellence Award 2000-01 at IIT Kanpur.

Certificate of excellence (top 0.1%) in Indian National Physics Olympiad 2000 and selected for training for International Physics Olympiad.

## PROFESSIONAL SERVICES

Reviewer for ICCV'07.

Reviewer for IROS'07, IROS'08.

Reviewer for CVPR'06, CVPR'07, CVPR'08.

Reviewer for AMDO'06.

## REFERENCES

Larry S. Davis  
Professor and Chair  
Department of Computer Science  
University of Maryland, College Park  
Email:[lsd@cs.umd.edu](mailto:lsd@cs.umd.edu)

Anurag Mittal\*  
Assistant Professor  
Department of Computer Science  
Indian Institute of Technology, Chennai  
Email:[amittal@cse.iitm.ernet.in](mailto:amittal@cse.iitm.ernet.in)  
\*Previously with Siemens Corporate Research, Princeton, NJ

Yaser Yacoob  
Research Scientist  
Institute of Advanced Computing Studies  
University of Maryland, College Park  
Email:[yaser@umiacs.umd.edu](mailto:yaser@umiacs.umd.edu)