

CURRICULUM VITAE

Amol Ambardekar

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PhD Candidate
Department of Computer Science and Engineering
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EDUCATION

Ph.D. in Computer Science	University of Nevada, Reno, USA	MAY 2012
Thesis	Vehicle Classification Framework: Online Classification with Tracking	(Expected)
Advisor	Dr. Mircea Nicolescu	
M.S. in Computer Science	University of Nevada, Reno, USA	DEC 2007
Thesis	Efficient Vehicle Tracking and Classification for an Automated Traffic Surveillance System	
Advisor	Dr. Mircea Nicolescu	
M.S. in Applied Physics	East Carolina University, Greenville, USA	AUG 2005
Thesis	Optical Levitation and Manipulation of Stuck Particles with Pulsed Optical Tweezers	
Advisor	Dr. Yong-qing Li	
B.E. in Electronics Engineering	Mumbai University, India	NOV 2002
Thesis	Signature Recognition Using Image Processing & Artificial Intelligence	
Advisor	Prof. V. B. Kulkarni	

APPOINTMENTS

Research Assistant	University of Nevada, Reno	FALL 2008 – Present
<ul style="list-style-type: none">• Vehicle Classification Framework• Point Clouds and Range Images for Intent Recognition and Human-Robot Interaction• A Developmental Framework for Visual Learning in Robotics• Integrating Context into Intent Recognition Systems• Object Tracking Using Piecewise Feature Clustering• Ground Truth Verification Tool (GTVT) for Video Surveillance Systems		

HONORS

• Outstanding International Graduate Student Award	University of Nevada, Reno	2011
• Outstanding International Graduate Student Award	University of Nevada, Reno	2010
• Teaching Recognition Award	University of Nevada, Reno	2008

RESEARCH INTERESTS

- Computer Vision and Pattern Recognition
 - Activity and Intent Recognition in Visual Domain
 - Visual Capabilities in Robotics Applications
 - Human-Robot Interaction
 - Evolutionary Computing
 - Machine Intelligence
 - Computer Graphics
 - Biometric-Based Identification Systems
 - General and Special Purpose Microprocessor Design and Architecture
 - Parallel Processing and Distributed Systems
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TEACHING EXPERIENCE

Teaching Assistant	University of Nevada, Reno, USA	
• Introduction to Computer Engineering (CPE 201) Prepared and delivered laboratory lectures, graded assignments and reports, and held office hours.		FALL 2006 – SPRING 2008
	Awarded Teaching Recognition Award in 2008	
• Programming Languages, Concepts and Implementation (CS 326) Graded assignments, and held office hours.		FALL 2005 – SPRING 2006
• Mathematics of Computer Science (CS 365) Graded assignments, and held office hours.		FALL 2005 – SPRING 2006
• Analysis of Algorithms (CS 477/677) Graded assignments, and held office hours.		FALL 2005
Teaching Assistant	East Carolina University, USA	
• Laboratory course in Introductory Physics – II (PHYS 1261) Prepared and delivered laboratory lectures, graded lab reports, and held office hours.		SUMMER 2005
• Laboratory course in Introductory Physics – I (PHYS 1251) Prepared and delivered laboratory lectures, graded lab reports, and held office hours.		SPRING 2005
• Laboratory course in Advanced Physics (PHYS 3701) Prepared and delivered laboratory lectures, graded lab reports, and held office hours.		FALL 2004
• Laboratory course in Introductory Physics – II (PHYS 1261) Prepared and delivered laboratory lectures, graded lab reports, and held office hours.		FALL 2003 – SUMMER 2004

PUBLICATIONS

Journals

1. **Amol Ambardekar**, Mircea Nicolescu, George Bebis, and Monica Nicolescu, "Vehicle Classification Framework: A Comparative Study," (under Review).
2. H. Kekre, Vinayak Bharadi, **Amol Ambardekar**, "Signature Recognition by Pixel Variance Analysis Using Multiple Morphological Dilations," in *International Journal of Information Retrieval*, 1(1), pp. 5-9, 2008.
3. **Amol Ambardekar** and Yong-qing Li, "Optical levitation and manipulation of stuck particles with pulsed optical tweezers," in *Optics Letters*, 30(14), pp. 1797-1799, 2005.

Conferences

1. H. B. Kekre, V. A. Bharadi, V. I. Singh, and **A. A. Ambardekar**, "Palmprint Recognition using Kekre's Wavelet's Energy Entropy Based Feature Vector", *Proceedings of the ACM International Conference & Workshop on Emerging Trends in Technology*, pp. 220-223, February 2011.
2. H. B. Kekre, V. A. Bharadi, P. Shaktia, V. Shah, and **A. A. Ambardekar**, "Keystroke Dynamic Analysis Using Relative Entropy & Timing Sequence Euclidian Distance", *Proceedings of the ACM International Conference & Workshop on Emerging Trends in Technology*, pp. 39-45, February 2011.
3. Richard Kelley, Alireza Tavakkoli, Chris King, **Amol Ambardekar**, Mircea Nicolescu, and Monica Nicolescu, "Integrating Context into Intent Recognition Systems," in *the Proceedings of 7th International Conference on Informatics in Control, Automation and Robotics*, Madeira, Portugal, pp. 315-320, June 2010.
4. **Amol Ambardekar**, Alireza Tavakkoli, Mircea Nicolescu, Monica Nicolescu, "A Developmental Framework for Visual Learning in Robotics," *Proceedings of the International Conference on Image Processing, Computer Vision and Pattern Recognition*, Las Vegas, Nevada, pp. 382-387, July 2010.
5. H. B. Kekre, V. A. Bharadi, S. Gupta, **A. A. Ambardekar**, and V. B. Kulkarni, "Off-line Signature Recognition Using Morphological Pixel Variance Analysis", *Proceedings of the ACM International Conference and Workshop on Emerging Trends in Technology*, pp. 3-10, February 2010.
6. **Amol Ambardekar**, Mircea Nicolescu, and Monica Nicolescu, "Object Tracking Using Piecewise Feature Clustering," in *the Proceedings of Visualization, Imaging and Image Processing*, Cambridge, UK, July 2009.

7. **Amol Ambardekar**, Mircea Nicolescu, and Sergiu Dascalu, "Ground Truth Verification Tool (GTVT) for Video Surveillance Systems," in *the Proceedings of Advances in Computer Human Interactions*, Cancun, Mexico, pp. 354-359, February 2009.
8. **Amol Ambardekar**, Mircea Nicolescu, and George Bebis, "Efficient Vehicle Tracking and Classification for an Automated Traffic Surveillance System," in *the Proceedings of Signal and Image Processing*, Kailua-Kona, Hawaii, pp. 1-6, August 2008.
9. Alireza Tavakkoli, **Amol Ambardekar**, Mircea Nicolescu, Sushil Louis, "A Genetic Approach to Training Support Vector Data Descriptors for Background Modeling in Video Data", in *the Proceedings of the 3rd International Symposium on Visual Computing*, Lake Tahoe, Nevada, pp. 318-327, November 2007.
10. H. Kekre, Vinayak Bharadi, and **Amol Ambardekar**, "Novel and Simple Contour Technique for Signature Recognition," in *National Conference of Communication and Signal Processing*, Mumbai, India, 2007.
11. **Amol Ambardekar** and Yong-qing Li, "Pulsed optical tweezers for levitation and manipulation of stuck biological particles," in *the Proceedings of Conference on Lasers and Electro-Optics*, Baltimore, Maryland, USA, pp. 2302-2304, May 2005.

Technical Reports

1. **Amol Ambardekar**, "Efficient Vehicle Tracking and Classification for an Automated Traffic Surveillance System," *M.S. Thesis*, Department of Computer Science and Engineering, University of Nevada, Reno, USA, December 2007.
2. **Amol Ambardekar**, "Optical Levitation and manipulation of stuck particles with pulsed optical tweezers", *M.S. Thesis*, Department of Physics, East Carolina University, Greenville, NC, USA, August 2005.
3. **Amol Ambardekar et al.**, "Signature Recognition Using Image Processing & Artificial Intelligence", *Project Report*, Mumbai University, India.

Invited Presentations and Posters

1. Richard Kelley, **Amol Ambardekar**, Liesl Wigand, Monica Nicolescu, and Mircea Nicolescu, "Point Clouds and Range Images for Intent Recognition and Human-Robot Interaction," in *2nd Workshop on RGB-D: Advanced Reasoning with Depth Cameras*, June 2011.
2. **Amol Ambardekar**, Mircea Nicolescu, and George Bebis, "Automated Traffic Surveillance System," in *the SIAM International Conference on Data Mining*, Sparks, USA, May 2009.

SYNERGISTIC ACTIVITIES

Professional and Academic Development

- Volunteered for Engineer's day event, University of Nevada, Reno, April 2011
- Participated in organizing the 6th Intl. Symposium on Visual Computing, November 2010
- Volunteered as a computer instructor at Children's Cabinet, Reno, November, 2009.
- Participated in organizing the 5th Intl. Symposium on Visual Computing, November 2009
- Participated in organizing the 4th Intl. Symposium on Visual Computing, December 2008
- Volunteered for Engineer's day event, University of Nevada, Reno, February 2008
- Participated in organizing the 3rd Intl. Symposium on Visual Computing, November 2007
- Participated in organizing the 2nd Intl. Symposium on Visual Computing, November 2006

Journal and Conference Reviewer

- International Conference on Advanced Video and Signal-Based Surveillance 2011
- Journal of Zhejiang University Science C (Computers & Electronics) 2011
- International Conference and Workshop on Emerging Trends in Technology, 2010
- IEEE Workshop on Online Learning for Classification 2008 (in conj. w/ CVPR)

MEMBERSHIPS

- Institute of Electrical and Electronics Engineers (IEEE)
 - Phi Kappa Phi Honor Society
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REFERENCES

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Dr. Monica Nicolescu

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