

## Hamed Pirsiavash

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CURRENT POSITION	Assistant Professor Department of Computer Science and Electrical Engineering University of Maryland, Baltimore County (UMBC)	
RESEARCH INTERESTS	Computer Vision Machine Learning	
EDUCATION	<b>University of California Irvine</b> , Irvine, CA <i>Ph.D. in Computer Science (GPA: 4.0/4.0)</i> <ul style="list-style-type: none"><li>• Advisor: Prof. Deva Ramanan (now at CMU)</li><li>• Co-advisor: Prof. Ramesh Jain</li><li>• Thesis: Scalable Action Recognition in Continuous Video Streams</li></ul> <b>Sharif University of Technology</b> , Tehran, Iran <i>M.Sc. in Electrical Engineering</i> <ul style="list-style-type: none"><li>• Advisor: Prof. Farokh Marvasti</li><li>• Co-advisor: Prof. Shohreh Kasaei</li><li>• Thesis: Moving Object Segmentation in Video Sequences</li></ul> <b>Iran University of Science and Technology</b> , Tehran, Iran <i>B.Sc. in Electrical Engineering</i>	09/2007 - 09/2012  09/2003 - 01/2006  09/1999 - 09/2003
ACADEMIC EXPERIENCE	<b>University of Maryland, Baltimore County (UMBC)</b> , Baltimore, MD <i>Assistant Professor</i> <ul style="list-style-type: none"><li>• Computer vision and machine learning</li></ul> <b>Massachusetts Institute of Technology (MIT)</b> , Cambridge, MA <i>Postdoctoral Research Associate with Prof. Antonio Torralba</i> <ul style="list-style-type: none"><li>• Human activity understanding</li></ul> <b>University of California Irvine (UCI)</b> , Irvine, CA <i>Research Assistant with Prof. Deva Ramanan</i> <ul style="list-style-type: none"><li>• Object detection and tracking and action recognition</li></ul> <b>University of Miami</b> , Coral Gables, FL <i>Research Assistant with Prof. Shahriar Negahdaripour</i> <ul style="list-style-type: none"><li>• Pairing optical and sonar cameras to perform underwater 3D reconstruction</li></ul> <b>Sharif University of Technology</b> , Tehran, Iran <i>Research Assistant with Prof. Farokh Marvasti</i> <ul style="list-style-type: none"><li>• Segmentation, denoising, and watermarking in images and videos</li></ul>	08/2015 - present  10/2012 - 06/2015  09/2007 - 09/2012  08/2006 - 06/2007  09/2003 - 01/2006
INDUSTRIAL EXPERIENCE	<b>FX Palo Alto Laboratory (FXPAL)</b> , Palo Alto, CA <i>Research Intern</i> <ul style="list-style-type: none"><li>• Summarization and retrieval in lecture videos: <a href="http://www.talkminer.com">www.talkminer.com</a> So far, it has indexed more than 60,000 lecture videos from YouTube and other sources.</li></ul> <b>Mitsubishi Electric Research Labs (MERL)</b> , Cambridge, MA <i>Research Intern</i>	06/2009 - 09/2009  06/2008 - 09/2008

- Human behavior prediction using a motion sensor network installed in a building

**Payasoft Co.**, Tehran, Iran 05/2000 - 07/2006

*Researcher and Algorithm Developer*

- Optical character recognition (OCR) systems for handwritten Persian and Arabic scripts  
Currently being used in large scale in the data entry process of several national organizations in Iran with more than 20 million records annually.

**Resana Afzar Co.**, Tehran, Iran 01/2006 - 07/2006

*Researcher and Algorithm Developer*

- Developed algorithms for video denoising and stabilization for National Iranian Movie Archive

TEACHING  
EXPERIENCE

**University of Maryland, Baltimore County**, Baltimore, MA 2015-present

*Instructor for “Machine Learning” and “Computer Vision”*

**University of California Irvine**, Irvine, CA 2008-2009

*Teaching Assistant for “Digital Logic Design”*

**Sharif University of Technology**, Tehran, Iran 2005

*Instructor for “Wireless Communications Lab”*

**Sharif University of Technology**, Tehran, Iran 2005

*Teaching Assistant for “Advanced Image Processing” and “Digital Image Processing”*

**Iran University of Science and Technology**, Tehran, Iran 2001

*Teaching Assistant for “Electrical Circuits”*

**Allameh Helli Middle School (NODET)**, Tehran, Iran 2000-2004

*Instructor for “Computer Programming and Algorithms” and “Logic Circuit Design”*

SELECTED  
HONORS AND  
AWARDS

**Best Paper Award** in BMG Workshop at CVPR 2007 2007

**Travel Grant**, CVPR 2014 2014

**Doctoral Consortium Travel Grant**, CVPR 2012 2012

**Ranked in Top 3** in hITEC Entrepreneurship Competition at UC Irvine 2009

**Ranked 13/~8,000**, Nationwide Entrance Exam for Graduate Studies 2003

**Ranked in Top 0.1%**, National Electrical Engineering Olympiad 2003

**Silver Medal** in the National Physics Olympiad for high school students 1998

**Admission** to middle school and high school in National Organization for Development of Exceptional Talents (NODET) (success rate <0.3%) 1992 and 1995

ACADEMIC  
SERVICE

**Co-organizer**

- Workshop on Egocentric Vision at CVPR 2012

**Area Chair**

- CVPR 2018: IEEE Conference on Computer Vision and Pattern Recognition
- CVPR 2017: IEEE Conference on Computer Vision and Pattern Recognition
- ICVGIP 2016: Tenth Indian Conference on Computer Vision, Graphics and Image Processing

**Program Committee Member / Reviewer**

- IJCV: International Journal of Computer Vision
- TPAMI: IEEE Transactions on Pattern Analysis and Machine Intelligence
- JEI: Journal of Electronic Imaging
- CVPR 2011-2016: IEEE Conference on Computer Vision and Pattern Recognition

- ICCV 2011-2015: International Conference on Computer Vision
- NIPS 2013-2015: Advances in Neural Information Processing Systems
- ICML 2016: International Conference on Machine Learning
- ECCV 2012-2014: European Conference on Computer Vision
- ACCV 2014: Asian Conference on Computer Vision
- ACM MM 2013-2014: ACM Multimedia
- IROS 2011: IEEE/RSJ International Conference on Intelligent Robots and Systems
- ICMR 2011: ACM International Conference on Multimedia Retrieval
- EUSIPCO 2011: 19th European Signal Processing Conference
- Workshop on Scene Understanding at CVPR 2014
- Workshop on Egocentric Vision at CVPR 2014.
- Workshop on Scene Understanding for Autonomous Systems at ACCV 2014
- Workshop on Wearable Computer Vision Systems at ICCV 2013
- Workshop on Understanding Human Activities at ICCV 2013

SELECTED  
PRESS COVERAGE

- Forbes, Wired, PopSci, CNN, NPR, Associated Press, Late Show with Stephen Colbert, The New York Times, MIT News, “Algorithm Binge Watches TV to Predict Human Behavior”, 06/2016.
- NBC News, WIRED-UK, GIGAOM, ScienceDaily, Technology Review, MIT News, “Techniques from Natural Language Processing Enable Computers to Efficiently Search Video for Actions”, 05/2014.
- MIT Technology Review, “Random Image Experiment Reveals The Building Blocks of Human Imagination”, 10/2014.

PATENT

- “Systems and methods for indexing presentation videos”, FXPAL, US08280158.

SELECTED  
PUBLICATIONS

- Ali Diba, Vivek Sharma, Ali Pazandeh, Hamed Pirsiavash, Luc Van Gool, “Weakly Supervised Cascaded Convolutional Networks”, International Conference on Computer Vision and Pattern Recognition (CVPR) 2017.
- Carl Vondrick, Hamed Pirsiavash, Antonio Torralba, “Generating Videos with Scene Dynamics”, Neural Information Processing Systems (NIPS), 2016.
- Arsalan Mousavian, Hamed Pirsiavash, Jana Kosecka, “Joint Semantic Segmentation and Depth Estimation with Deep Convolutional Networks”, International Conference on 3DVision (3DV), 2016.
- Carl Vondrick, Hamed Pirsiavash, Antonio Torralba, “Anticipating Visual Representations with Unlabeled Video”, International Conference on Computer Vision and Pattern Recognition (CVPR) 2016 (**spotlight presentation**).
- Llus Castrejn, Yusuf Aytar, Carl Vondrick, Hamed Pirsiavash, Antonio Torralba, “Learning Aligned Cross-Modal Representations from Weakly Aligned Data”, International Conference on Computer Vision and Pattern Recognition (CVPR) 2016.
- Carl Vondrick, Deniz Oktay, Hamed Pirsiavash, Antonio Torralba, “Predicting Motivations of Actions by Leveraging Text”, International Conference on Computer Vision and Pattern Recognition (CVPR) 2016.
- Ali Diba, Ali Mohammad Pazandeh, Hamed Pirsiavash, Luc Van Gool, “DeepCAMP: Deep Convolutional Action and Attribute Mid-Level Patterns”, International Conference on Computer Vision and Pattern Recognition (CVPR) 2016.

- Carl Vondrick, Aditya Khosla, Hamed Pirsiavash, Tomasz Malisiewicz, Antonio Torralba, “Visualizing Object Detection Features”, to appear in International Journal of Computer Vision (IJCV), 2016.
- Carl Vondrick, Hamed Pirsiavash, Antonio Torralba, “Learning Visual Biases from Human imagination”, Neural Information Processing Systems (NIPS) 2015.
- Hamed Pirsiavash, Carl Vondrick, Antonio Torralba, “Assessing the Quality of Actions”, European Conference on Computer Vision (ECCV) 2014.
- Hamed Pirsiavash, Deva Ramanan, “Parsing Videos of Actions with Segmental Grammars”, International Conference on Computer Vision and Pattern Recognition (CVPR) 2014 (**oral presentation**) (acceptance rate <4%).
- Joseph Lim, Hamed Pirsiavash, Antonio Torralba, “Parsing IKEA Objects: Fine Pose Estimation”, International Conference on Computer Vision (ICCV) 2013.
- Hamed Pirsiavash, Deva Ramanan, “Detecting Activities of Daily Living in First-person Camera Views”, International Conference on Computer Vision and Pattern Recognition (CVPR) 2012 (**oral presentation**) (acceptance rate <3%).
- Hamed Pirsiavash, Deva Ramanan, “Steerable Part Models”, International Conference on Computer Vision and Pattern Recognition (CVPR) 2012.
- Hamed Pirsiavash, Deva Ramanan, Charless Fowlkes, “Globally-Optimal Greedy Algorithms for Tracking a Variable Number of Objects”, International Conference on Computer Vision and Pattern Recognition (CVPR) 2011.
- Sangmin Oh et al., “A Large-scale Benchmark Dataset for Event Recognition in Surveillance Video”, International Conference on Computer Vision and Pattern Recognition (CVPR) 2011.
- John Adcock, Matthew Cooper, Laurent Denoue, Hamed Pirsiavash, Lawrence Rowe, “Talk-Miner: A Lecture Webcast Search Engine”, ACM Multimedia 2010.
- Hamed Pirsiavash, Deva Ramanan, Charless Fowlkes, “Bilinear Classifiers for Visual Recognition”, Neural Information Processing Systems (NIPS) 2009 (**spotlight presentation**) (acceptance rate <8%).
- Shahriar Negahdaripour, Hicham Sekkati, Hamed Pirsiavash, “Opti-Acoustic Stereo Imaging: On System Calibration and 3-D Target Reconstruction”, IEEE Transactions on Image Processing, Vol 18, Issue 6, Jun 2009, PP: 1203-1214.
- Vivek Singh, Hamed Pirsiavash, Ish Rishabh, Ramesh Jain, “Towards Environment-to-Environment (E2E) multimedia communication systems”, Multimedia Tools and Applications Journal, Springer Netherlands, Vol 44, Num 3, pp 361-388, May 2009.

#### TECHNICAL REPORTS

- Carl Vondrick, Hamed Pirsiavash, Antonio Torralba, “Anticipating the Future by Watching Unlabeled Video”, arXiv:1504.08023, 2015.
- Hamed Pirsiavash\*, Carl Vondrick\*, Antonio Torralba, “Inferring the Why in Images”, arXiv: 1406.5472, 2014. \*equal contribution
- Carl Vondrick, Hamed Pirsiavash, Aude Oliva, Antonio Torralba, “Acquiring Visual Classifiers from Human Imagination”, arXiv:1410.4627, 2014.
- Agata Lapedriza, Hamed Pirsiavash, Zoya Bylinskii, Antonio Torralba, “Are all training examples equally valuable?”, arXiv:1311.6510, 2013.

#### OTHER PUBLICATIONS

- Maxim Lazarov, Hamed Pirsiavash, Behzad Sajjadi, Uddipan Mukherjee, Aditi Majumder, “Data Handling Displays”, Workshops of CVPR 2009 - 6th IEEE/ACM International Workshop on

Projector-Camera Systems (Procams 2009).

- Pinaki Sinha, Hamed Pirsiavash, Ramesh Jain, “Personal Photo Album Summarization”, ACM Multimedia 2009 - Grand Challenge.
- Hamed Pirsiavash, Vivek Singh, Aditi Majumder, Ramesh Jain, “Shared Visualization Spaces for Environment-to-Environment Communication”, NSF Workshop on Media Arts, Science, and Technology 2009.
- Vivek Singh, Hamed Pirsiavash, Ish Rishabh, Ramesh Jain, “Towards Environment-to-Environment (E2E) Multimedia Communication Systems”, Workshops of ACM Multimedia 2008 - Semantic Ambient Media Experience.
- Ish Rishabh, Vivek Kumar Singh, Hamed Pirsiavash, Ramesh Jain, “Environment to environment (E2E) communication systems for collaborative work”, Computer supported cooperative work (CSCW) 2008.
- Shahriar Negahdaripour, Hamed Pirsiavash, Hicham Sekkati, “Integration of motion cues in optical and sonar video imaging for 3-D positioning”, Workshops of CVPR 2007 - Towards Benchmarking Automated Calibration, Orientation, and Surface Reconstruction from Images.
- Shahriar Negahdaripour, Hicham Sekkati, Hamed Pirsiavash, “Opti-Acoustic Stereo Imaging, System Calibration and 3-D Reconstruction”, Workshops of CVPR 2007 - Beyond Multiview Geometry (**Best Paper Award**).
- Amir Houmansadr, Hamed Pirsiavash, Shahrokh Ghaemmaghami, “Robust Content-based Video Watermarking Exploiting Motion Entropy Masking Effect”, International Conference on Signal Processing and Multimedia Applications 2006.
- Hamed Pirsiavash, Shohreh Kasaei, Farokh Marvasti, “An Efficient Parameter Selection Criterion for Image Denoising”, 5th IEEE International Symposium on Signal Processing and Information Technology 2005.
- Hamed Pirsiavash, Mohammad Soleymani, Gholam-Ali Hossein-Zadeh, “An Iterative Approach for Reconstruction of Arbitrary Sparsely Sampled Magnetic Resonance Images”, The 18th IEEE International Symposium on Computer-Based Medical Systems 2005.
- Hamed Pirsiavash, Ramin Mehran, Farbod Razzazi, “A Robust Free Size OCR for Omni-font Persian/Arabic Printed Document using MLP/SVM”, Lecture Notes in Computer Science, LNCS 3773, pp. 601-610, Springer Verlag, Nov. 2005.
- Ramin Mehran, Hamed Pirsiavash, Farbod Razzazi, “A Front-end OCR for Omni-font Persian/Arabic Cursive Printed Documents”, Digital Image Computing: Techniques and Applications (DICTA) 2005.
- Hamed Pirsiavash, Farbod Razzazi, “Design and Implementation of a Hierarchical Classifier for Isolated Handwritten Persian/Arabic Characters”, Int. Conference on Signal Processing, 2003.