

# Hossein Hajimirsadeghi

## Curriculum Vitae

School of Computing Science  
Simon Fraser University  
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### Education

- 2011–Present **Ph.D., Computing Science**, Simon Fraser University (SFU), Canada, GPA: 4.28/4.33.
- **Thesis:** Beyond Spatio-Temporal Models: Learning "Cardinality-Based" Latent Probabilistic Models. **Supervisor:** Dr. Greg Mori.
  - Courses: Machine Learning (A+), Directed Reading on Probabilistic Graphical Models (A+ at SFU, 96/100 at Coursera), Directed Reading on Boosting and Random Forests (A+), Design and Analysis of Algorithms (A+), Multimedia Systems (A+), Statistical Machine Translation (A).
- 2008–2010 **M.Sc., Electrical and Computer Engineering**, University of Tehran, Iran, GAP: 18.92/20.
- **Thesis:** Conceptual Imitation Learning Based on Perceptual and Functional Characteristics of Action.
- 2004–2008 **B.Sc., Electrical and Computer Engineering**, University of Tehran, Iran, GAP: 17.56/20.
- **BS Project:** Nash Equilibrium Search for Nonlinear Games, Using Evolutionary Algorithms.

### Publications

#### Pending

- 2015 **H. Hajimirsadeghi** and G. Mori, "Multi-Instance Learning by Max-Margin Training of Cardinality-Based Markov Networks," Submitted to IEEE Transactions on Pattern Analysis and Machine Intelligence.

#### Published

- 2015 **H. Hajimirsadeghi**, W Yang, A. Vahdat, and G. Mori, "Visual Recognition by Counting Instances: A Multi-Instance Cardinality Potential Kernel," To appear in 2015 IEEE Conference on Computer Vision and Pattern Recognition, June 2015.
- 2014 J. Li, **H. Hajimirsadeghi**, M. Zaki, G. Mori, and T. Sayed, "Computer Vision Techniques to Collect Helmet-Wearing Data on Cyclists," Journal of the Transportation Research Board, Vol. 2468, 2014.
- 2014 J. Li, **H. Hajimirsadeghi**, M. Zaki, G. Mori, and T. Sayed, "Cyclist's Helmet Recognition Using Computer Vision Techniques," Proc. 93rd Transportation Research Board (TRB) Annual Meeting, Washington DC, January 2014.
- 2013 **H. Hajimirsadeghi**, J. Li, G. Mori, M. Zaki, and T. Sayed, "Multiple Instance Learning by Discriminative Training of Markov Networks," Proc. 29th Conference on Uncertainty in Artificial Intelligence (UAI), pp. 262–271, July 2013.
- 2013 **H. Hajimirsadeghi**, M. Nili Ahmadabadi, and B. Nadjar Araabi, "Conceptual imitation Learning based on perceptual and functional characteristics of action," IEEE Transactions on Autonomous Mental Development, vol. 5, no. 4, pp. 311–325, 2013.
- 2013 S. Oh, S. McCloskey, I. Kim, A. Vahdat, K. Cannons, **H. Hajimirsadeghi**, G. Mori, A. G. A. Perera, M. Pandey, and J. J. Corso, "Multimedia Event Detection and Recounting with Multimodal Feature Fusion and Temporal Concept Localization," Machine Vision and Applications (MVA), Special issue on Multimedia Event Detection, 2013.
- 2013 S. Oh et al., "TRECVID 2013 GENIE: Multimedia Event Detection and Recounting," NIST TRECVID Workshop 2013, Geithersburg, MD, USA.

- 2012 **H. Hajimirsadeghi** and G. Mori, "Multiple Instance Real Boosting with Aggregation Functions," Proc. 21st IAPR International Conference on Pattern Recognition (ICPR), Tsukuba Science City, Japan, pp. 2706–2710, Nov. 2012.
- 2012 A.G.A. Perera et al., "TRECVID 2012 GENIE: Multimedia Event Detection and Recounting," NIST TRECVID Workshop 2012, Geithersburg, MD, USA.
- 2012 **H. Hajimirsadeghi**, M. Nili Ahmadabadi, B. Nadjar Araabi, H. Moradi, "Conceptual imitation learning in a human-robot interaction paradigm," ACM Transactions on Intelligent Systems and Technology, vol. 3, no. 2, 2012.
- 2012 A. Nikoofard, **H. Hajimirsadeghi**, A. Rahimi-Kian, C. Lucas, "Multi-objective Invasive Weed Optimization: Application to Analysis of Pareto Improvement Models in Electricity Markets," Applied Soft Computing, vol. 12, no. 1, pp. 100–112, 2012.
- 2011 **H. Hajimirsadeghi**, "Conceptual Imitation Learning based on functional effects of action," Proc. EUROCON 2011, Lisbon, Portugal, April 2011. (Selected as one of the five best papers in IEEE R8 Student Paper Contest 2011)
- 2010 **H. Hajimirsadeghi**, M. Nili Ahmadabadi, M. Ajallooeian, B. Nadjar Araabi, H. Moradi, "Conceptual Imitation Learning: Application to Human-Robot Interaction," Journal of Machine Learning Research: Workshop and Conference Proceedings, vol. 13, pp. 341–356, ACML2010, Tokyo, Japan, Nov. 2010.
- 2009 M. Ramezani Ghalenoei, **H. Hajimirsadeghi**, C. Lucas, "Discrete invasive optimization algorithm and its application to cooperative multiple task assignment of UAVs," Proc. 48th IEEE Conference on Decision and Control, Shanghai, China, pp. 1665–1670, Dec. 2009.
- 2009 **H. Hajimirsadeghi**, A. Ghazanfari, A. Rahimi-Kian, C. Lucas. "Cooperative coevolutionary invasive weed optimization and its application to Nash equilibrium search," Proc. World Congress on Nature and Biologically Inspired Computing, Coimbatore, India, pp. 1532–1535, Dec. 2009.
- 2009 **H. Hajimirsadeghi**, C. Lucas, "A hybrid IWO/PSO algorithm for fast and global optimization," Proc. EUROCON 2009, St. Petersburg, RUSSIA, pp. 1964–1971, May 2009. (Selected as one of the five best papers in IEEE R8 student paper contest 2009)
- 2008 S. Sodagari, **H. Hajimirsadeghi**, A. Nasiri Avanaki. "Automatic artifact identification in image communication using watermarking and classification algorithms," Proc. International Symposium on Telecommunications (IST08), Tehran, Iran, pp. 725–730, Aug. 2008.
- 2008 **H. Hajimirsadeghi**, M. Nabaee, B. Nadjar Araabi, "Ant colony optimization with a genetic restart approach toward global optimization," Advances in Computer Science and Engineering, Springer Berlin Heidelberg, vol. 6, pp. 9–16, 2008.

## --- Honors and Awards

- 2014 Mitacs-Accelerate Internship Program award.
- 2014 Simon Fraser University President's PhD Scholarship.
- 2013,2014 Simon Fraser University Graduate Fellowship.
- 2013-2015 Ebco/Eppich Graduate Scholarships in Intelligent Systems.
- 2011 Selected as one of the best authors in IEEE R8 Student Paper Contest 2011.
- 2010 3rd place among all Masters students of Electrical Engineering in the 70th graduation anniversary of University of Tehran.
- 2010 1st and 2nd place in the local student paper contest among ECE graduate students at University of Tehran.
- 2009 2nd place in the local student paper contest among ECE graduate students at University of Tehran.
- 2009 Selected as one of the best authors in IEEE R8 Student Paper Contest 2009.

2008 3rd place in the local student paper contest among ECE undergraduate and graduate students at University of Tehran.

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### Recent Peer Reviewing:

CVPR 2015, ACCV 2014, ICCV 2013, BMVC 2013, ACCV 2011.