

Ehsan Jahangiri

CONTACT INFORMATION

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3400 N Charles St, *WWW:* <http://www.cis.jhu.edu/~ehsanj/>
Baltimore, MD 21218 USA. *Current Affiliation:* Center for Cognition, Vision, and Learning.

INTERESTS

Statistical Machine Learning, Graphical Models, Computer Vision (Deep Learning, Object Detection, Human Pose Estimation), Information Theory, Stochastic Search and Optimization, MCMC, Signal and Speech Processing, Bayesian Statistics, Statistical Methods for Large Datasets.

EDUCATION

Johns Hopkins University, Baltimore, Maryland USA

Postdoctoral Researcher, Computer Science, (Feb 2016-Present),

- Topic: 3D Human Pose Estimation & Deep Learning. Advisor: **Prof. Alan Yuille**.

Ph.D., Electrical and Computer Engineering, (2009–2016),

- Dissertation: “On Efficient Bayesian Scene Interpretation”. Advisor: **Prof. Don Geman**.
Committee: Profs Don Geman, Laurent Younes, Alan Yuille, Hynek Hermansky, Trac Tran.

M.Sc., Applied Mathematics and Statistics, (2013-2014),

- Area: Machine Learning, Statistics, Optimization. Advisor: **Prof. Daniel Robinson**.

M.Sc., Electrical and Computer Engineering, (2009-2011),

- Area: Signal & Speech Processing. Advisor: **Prof. Hynek Hermansky**, Director of CLSP.

Sharif University of Technology, Tehran, Iran

M.Sc., Electrical Engineering, (2005-2007),

- Area: Communication Systems, Signal & Speech Processing. Advisor: **Prof. Shahrokh Ghaemmaghami**. GPA = 17.61/20.

Iran University of Science and Technology, Tehran, Iran

B.Sc., Electrical Engineering, (2001-2005),

- Area: Electronics. Advisor: Dr. Jamshid Fariborz. GPA = 16.42/20.

HONORS AND AWARDS

- “NVIDIA Grant (Tesla K40)” to support my research in sequential scene interpretation.
- Winner of Iranian-American Academics and Professionals Scholarship (Fall 2014).
- IPAM (UCLA) stochastic gradient methods workshop travel grant (Feb 2014).
- IPAM (UCLA) computer vision summer school travel grant (summer 2013).
- Awarded admission to the JHU Applied Math & Statistics (AMS) masters program double majoring in ECE and AMS.
- John Hopkins deans full fellowship for three semesters (fall 2009-fall 2010), Only 5 out of 35 graduate students in the ECE department were awarded this fellowship.
- Ranked 2nd amongst 15 M.Sc. students in the Secure Communications field, Sharif University of Technology (2007).
- Ranked 4th amongst 120 B.Sc. students, Iran University of Science & Technology (2005).
- Top 0.5% of national university entrance exam (masters) in Electrical Engineering amongst 12,000 participants (2005).
- Awarded for excellence in research for summer internship, Iran Telecom Research Center, Tehran, Iran (2004).

PUBLICATIONS

- E. Jahangiri, Accelerated Robust Stochastic Approximation, (coming soon).
- E. Jahangiri, E. Yoruk, R. Vidal, L. Younes, D. Geman, Information Pursuit: A Bayesian Framework for Sequential Scene Parsing, arXiv:1701.02343, Jan 2017 (IJCV under review).
- E. Jahangiri, A.L. Yuille, Generating Multiple Hypotheses for Human 3D Pose Consistent with 2D Joint Detections, ICCV 2017, Venice, Italy (PeopleCap Workshop).
- E. Jahangiri, R. Vidal, L. Younes, D. Geman, “Object-Level Generative Models for 3D Scene Understanding”, CVPR Scene Understanding Workshop (SUNw), June 2015, Boston.
- E. Jahangiri, and S. Ghaemmaghami, “Very Low Rate Scalable Speech Coding Through Classified Embedded Matrix Quantization”, EURASIP Journal on Advances in Signal Processing, 2010.
- E. Jahangiri, and S. Ghaemmaghami, “Scalable Speech Coding at Rates Below 900bps,” 2008 IEEE International Conference on Multimedia and Expo (ICME08), Hannover, Germany, pp.85-88, June 23-26 2008.
- E. Jahangiri, and S. Ghaemmaghami, “High rate data hiding in speech using voicing diversity in an adaptive MBE scheme”, 2008 IEEE TENCN Conference (TENCN08), Hyderabad, India.
- E. Jahangiri, and S. Ghaemmaghami, “High Rate Data Hiding in Speech Signal”, International Conference on Signal Processing and Multimedia Applications (ICETE/SIGMAP07), Barcelona, Spain, 28-31 Jul 2007.
- E. Jahangiri, J. Mohajeri, “Non-Interactive Publicly Verifiable Partial Key Escrow”, 12th Annual International CSI Computer Conference (CSICC07), Iran, 20-22 Feb 2007.

PRESENTATIONS & TALKS:

- (Sep 22, 2016) “Adaptive Stochastic Optimization”, CCVL group meeting, Johns Hopkins University.
- (May 6, 2016) “On Efficient Bayesian Scene Interpretation: An Entropy Pursuit Approach”, Mid-Atlantic Computer Vision (MACV) Workshop.
- (June 12, 2015) “Object-Level Generative Models for 3D Scene Understanding”, CVPR Scene Understanding Workshop.
- (Nov 5, 2014) “Prior Model: A Key Component in Entropy Pursuit Scene Interpretation”, Qualcomm Computer Vision R&D multimedia group, hosted by Dr. Magdi Mohamed.

PROFESSIONAL & RESEARCH EXPERIENCE:

- Center for Imaging Science (JHU)**, Baltimore, MD USA **Sep, 2010 - Feb 2016**
Research Assistant: Computer Vision and Machine Learning. Supervisor: Prof. Don Geman.
- Qualcomm Inc.** (Internship), San Diego, CA USA **Jul, 2014 - Dec, 2014**
- Center for Language & Speech Processing (JHU)**, Baltimore, MD USA **Sep, 2009 - Sep 2010**
Research Assistant: Speech & Language Processing. Supervisor: Prof. Hynek Hermansky.
- Electronics Research Institute, SUT** **Nov, 2007 - Aug, 2009**
Algorithm Engineer: Design and implementation of a new multi-band very low rate speech coding system for adverse voice communication applications on DSP Platform. Also, developing new and efficient steganalysis methods in order to detect hidden messages in image, video, and audio signals.
- Sharif University of Technology**, Tehran, Iran **Sep, 2005 - Oct, 2007**
Research Assistant: Working on very low bit rates speech coders and data hiding in multimedia signals.

COMPUTER SKILLS

- Languages: C/C++, Matlab, Python, Lua, R, PASCAL.
- Libraries and Computing Frameworks: Caffe, Torch, TensorFlow, Gurobi, Fastfit, Lightspeed, SPAMS, VLFeat, OpenCV.
- Operating Systems: Unix/Linux, Windows.

- SUMMER SCHOOLS & SHORT COURSES
- “IPAM Stochastic Gradient Methods Workshop”, UCLA, Feb 14
 - “GPU Computing Symposium and Workshop”, NVIDIA, Fall 13
 - “IPAM Computer Vision Summer School”, UCLA, Summer 13

GRADUATE COURSES:

Johns Hopkins University:

- “Analysis of Algorithms”, Prof. Jim Fill, Spring 14
- “Machine Learning in Complex Domains”, Prof. Suchi Saria, Fall 13
- “System Identification and Likelihood Methods”, Prof. James Spall, Spring 13
- “Monte Carlo Methods”, Prof. James Spall, Fall 12
- “Topics in Statistical Pattern Recognition”, Prof. Priebe, Spring 12
- “Current Topics in Machine Learning”, Prof. Dredze, Spring 12
- “Optimization Algorithms”, Prof. Daniel Robinson, Fall 11
- “Machine Learning”, Prof. Dredze, Fall 11
- “Graphical Models”, Prof. Younes, Spring 11
- “Statistical Methods in Imaging”, Prof. Jedynek, Spring 11
- “Intro to Statistics”, Prof. Naiman, Spring 11
- “Digital Communications”, Prof. Davidson, Spring 11
- “Compressed Sensing and Sparse Recovery”, Prof. Tran, Spring 11
- “Computer Vision”, Prof. Hager, Fall 10
- “Statistical Learning with Applications”, Prof. Geman, Fall 10
- “Matrix Analysis and Linear Algebra”, Prof. Fishkind, Fall 10
- “Wavelets and Filter Banks”, Prof. Tran, Spring 10
- “Microphone Arrays and Noise Suppression”, Prof. West, Spring 10
- “Image Processing and Analysis”, Prof. Goutsias, Fall 09
- “Information Theory and Coding”, Prof. Jelinek, Fall 09
- “Speech and Audio Processing”, Prof. Elhilali, Fall 09
- “Speech and Auditory Processing by Humans and Machines”, Prof. Hermansky, Fall 09

Sharif University of Technology:

- “Advanced Topics in Communications: Speech Coding, Synthesis and Recognition”, Prof. Ghaemmaghami, Fall 06, Grade = 18 (top grade in class)
- “Stochastic Processes”, Prof. Behnia, Spring 06, Grade = 19.9 (top grade in class)
- “Digital Signal Processing”, Prof. Tebyani, Fall 06, Grade = 19 (top grade in class)
- “Spread Spectrum Communications”, Prof. Aref, Spring 05
- “Advanced Communications Systems”, Prof. Nasiri, Spring 07

REFERENCES

- **Prof. Donald Geman:** Department of Applied Math & Stat, Johns Hopkins University. Email: geman@jhu.edu, Tel: 410-516-7678
- **Prof. Alan Yuille:** Department of Computer & Cognitive Science, Johns Hopkins University. Email: alan.l.yuille@gmail.com
- **Prof. Shahrokh Ghaemmaghami:** Department of Electrical Eng, Sharif University of Tech. Email: ghaemmag@sharif.edu