HONGLAK LEE

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EDUCATION

9/2010	Stanford University, Stanford, CA Ph.D. in Computer Science Thesis title: *Unsupervised Feature Learning via Sparse Hierarchical Representations* Thesis advisor: Professor Andrew Y. Ng
6/2006	Stanford University, Stanford, CA M.S. in Computer Science M.S. in Applied Physics
2/2003	Seoul National University, Seoul, Korea B.S. in Physics and Computer Science, GPA 4.14/4.30, *Summa Cum Laude*

PROFESSIONAL EXPERIENCE

9/2016 – present	Associate Professor (tenured), CSE division, University of Michigan, Ann Arbor, MI
9/2010 – 8/2016	Assistant Professor, CSE division, University of Michigan, Ann Arbor, MI
1/2005 – 8/2010	Research Assistant, Stanford AI Lab, Stanford University, Stanford, CA
8/1999 –1/2002	Software Engineer, ECO Co. Ltd., Seoul, Korea

AWARDS & HONORS

Research Fellow, Alfred P. Sloan Foundation, 2016
Morris Wellman Faculty Development Professorship, 2016
National Science Foundation CAREER Award, 2015
AI's 10 to Watch, IEEE Intelligent Systems, 2013
Google Faculty Research Award, 2011
Research Highlights in Communications of the ACM, 2011
Best Paper Award: Best Application Paper, International Conference on Machine Learning (ICML), 2009
Best Student Paper Award, Conference on Email and Anti-Spam (CEAS), 2005
Stanford Graduate Fellowship, Stanford University, 2003–2006
Graduate Fellowship from Korea Foundation for Advanced Studies (KFAS), 2003–2008
College Student Scholarship from Korea Foundation for Advanced Studies (KFAS), 1997–2001
Honorable Mention in the 16th University Students Contest of Mathematics, 1997
Undergraduate Scholarship from Korea Science and Engineering Foundation (KOSEF), 1996–1999
The First Place in the Entrance Exam of College of Natural Sciences, Seoul National University, 1996
The 12th place out of 344,780 applicants in the College Scholastic Ability Test (CSAT), Korea, 1996
Silver Medal in the 26th International Physics Olympiad, Canberra, Australia, 1995

REFEREED CONFERENCE AND JOURNAL PUBLICATIONS

1. Scott Reed, Zeynep Akata, Santosh Mohan, Samuel Tenka, Bernt Schiele, Honglak Lee. Learning What and Where to Draw. In NIPS, 2016. **Oral Presentation**
2. Xinchen Yan, Jimei Yang, Ersin Yumer, Yijie Guo, Honglak Lee. Perspective Transformer Nets:

Learning Single-View 3D Object Reconstruction without 3D Supervision. In NIPS, 2016.

3. Xinchen Yan, Jimei Yang, Kihyuk Sohn, Honglak Lee. Attribute2Image: Conditional Image Generation from Visual Attributes. In ECCV, 2016.
4. Yuting Zhang, Kibok Lee, and Honglak Lee. Augmenting Supervised Neural Networks with Unsupervised Objectives for Large-scale Image Classification. In *ICML*, 2016.
5. Wenling Shang, Kihyuk Sohn, Diogo Almeida, and Honglak Lee. Understanding and Improving Convolutional Neural Networks via Concatenated Rectified Linear Units. In *ICML*, 2016.
6. Junhyuk Oh, Valliappa Chockalingam, Satinder Singh, and Honglak Lee. Control of Memory, Active Perception, and Action in Minecraft. In *ICML*, 2016.
7. Scott Reed, Zeynep Akata, Xinchen Yan, Lajanugen Logeswaran, and Honglak Lee. Generative Adversarial Text to Image Synthesis. In *ICML*, 2016.
8. Seunghoon Hong, Junhyuk Oh, Bohyung Han, Honglak Lee. Learning Transferrable Knowledge for Semantic Segmentation with Deep Convolutional Neural Network. In *CVPR*, 2016. **Spotlight**
9. Jimei Yang, Brian Price, Scott Cohen, Ming-Hsuan Yang, Honglak Lee. Object Contour Detection with a Fully Convolutional Encoder-Decoder Network. In *CVPR*, 2016. **Spotlight**
10. Scott Reed, Zeynep Akata, Honglak Lee, Bernt Schiele. Learning Deep Representations of Fine-Grained Visual Descriptions. In *CVPR*, 2016. **Spotlight**
11. Xiaoxiao Guo, Satinder Singh, Richard Lewis, Honglak Lee. Deep Learning for Reward Design to Improve Monte Carlo Tree Search in ATARI Games. In *IJCAI*, 2016.
12. Wenling Shang, Kihyuk Sohn, Honglak Lee, Anna Gilbert. Discriminative Training of Structured Dictionaries via Block Orthogonal Matching Pursuit. In *SIAM International Conference on Data Mining (SDM)*, 2016.
13. Rui Zhang, Dragomir Radev, Honglak Lee. Dependency Sensitive Convolutional Neural Networks for Modeling Sentences and Documents. In the *15th Annual Conference of the North American Chapter of the Association for Computational Linguistics (NAACL-HLT)*, 2016
14. Scott Reed, Yi Zhang, Yuting Zhang, Honglak Lee. Deep Visual Analogy-Making. To appear in *Advances in Neural Information Processing Systems (NIPS)*, 2015. **Oral presentation**
15. Junhyuk Oh, Xiaoxiao Guo, Honglak Lee, Satinder Singh, Richard Lewis. Action-Conditional Video Prediction using Deep Networks in Atari Games. To appear in *Advances in Neural Information Processing Systems (NIPS)*, 2015. **Spotlight**
16. Kihyuk Sohn, Xinchen Yan, Honglak Lee. Learning Structured Output Representation using Deep Conditional Generative Models. To appear in *Advances in Neural Information Processing Systems (NIPS)*, 2015.
17. Jimei Yang, Scott Reed, Ming-Hsuan Yang, Honglak Lee. Learning to Rotate 3D Objects with Recurrent Convolutional Encoder-Decoder Networks. To appear in *Advances in Neural Information Processing Systems (NIPS)*, 2015.
18. Yuting Zhang, Kihyuk Sohn, Ruben Villegas, Gang Pan, and Honglak Lee. Improving Object Detection with Deep Convolutional Networks via Bayesian Optimization and Structured Prediction. In *Proceedings of the IEEE Conference on Computer Vision and Pattern Recognition (CVPR)*, 2015. **Oral presentation**
19. Zeynep Akata, Scott Reed, Daniel Walter, Honglak Lee, and Bernt Schiele. Evaluation of Output Embeddings for Fine-Grained Image Classification. In *Proceedings of the IEEE Conference on Computer Vision and Pattern Recognition (CVPR)*, 2015.

20. Changhan Wang, Xinchen Yan, Max Smith, Kanika Kochhar, Marcie Rubin, Stephen M. Warren, James Wrobel, and Honglak Lee. A Unified Framework for Automatic Wound Segmentation and Analysis with Deep Convolutional Neural Networks. To appear at the *Proceedings of the 37th Annual International Conference of the IEEE Engineering in Medicine and Biology Society (EMBC)*, 2015.
21. Kihyuk Sohn and Honglak Lee, Improved Multimodal Deep Learning with Variation of Information, In *Advances in Neural Information Processing Systems (NIPS)* 27, 2014.
22. Xiaoxiao Guo, Satinder Singh, Honglak Lee, Richard Lewis, Xiaoshi Wang, Deep Learning for Real-Time Atari Game Play Using Offline Monte-Carlo Tree Search Planning, In *Advances in Neural Information Processing Systems (NIPS)* 27, 2014.
23. Ian Lenz, Honglak Lee, Ashutosh Saxena. Deep Learning for Detecting Robotic Grasps, In *International Journal on Robotics Research (IJRR)*, 2014.
24. Alex Burnap, Yi Ren, Honglak Lee, Richard Gonzalez, Panos Y Papalambros. Improving Preference Prediction Accuracy with Feature Learning, In *Proceedings of the ASME International Design Engineering Technical Conferences (IDETC)*, 2014.
25. Scott Reed, Kihyuk Sohn, Yuting Zhang, Honglak Lee. Learning Representations for Interacting Manifolds with Higher-order Boltzmann Machines. To appear in *Proceedings of the 31st International Conference on Machine Learning (ICML)*, 2014.
26. Roni Mittelman, Benjamin Kuipers, Silvio Savarese, Honglak Lee. Structured Recurrent Temporal Restricted Boltzmann Machines. To appear in *Proceedings of the 31st International Conference on Machine Learning (ICML)*, 2014.
27. Forest Agostinelli, Michael Anderson, Honglak Lee. Adaptive Multi-Column Deep Neural Networks with Application to Robust Image Denoising. In *Advances in Neural Information Processing Systems (NIPS)*, 2013.
28. Kihyuk Sohn, Guanyu Zhou, Chansoo Lee, and Honglak Lee. Jointly Learning and Selecting Features via Conditional Point-wise Mixture RBMs, In *Proceedings of the 30th International Conference on Machine Learning (ICML)*, 2013.
29. Andrew Kae, Kihyuk Sohn, Honglak Lee, and Erik Learned-Miller. Think Globally and Locally: Hybrid Models for Segmentation and Labeling. In *Proceedings of the IEEE Conference on Computer Vision and Pattern Recognition (CVPR)*, 2013.
30. Roni Mittelman, Honglak Lee, Benjamin Kuipers, and Silvio Savarese. Weakly Supervised Learning of Mid-Level Features for Object Recognition. In *Proceedings of the IEEE Conference on Computer Vision and Pattern Recognition (CVPR)*, 2013.
31. Ian Lenz, Honglak Lee, and Ashutosh Saxena, Deep Learning for Detecting Robotic Grasps. In Proceedings of *Robotics: Science and Systems (RSS)*, 2013.
32. Yelin Kim, Honglak Lee, Emily Mower Provost, Deep Learning For Robust Feature Generation In Audiovisual Emotion Recognition, In *the 38th International Conference on Acoustics, Speech, and Signal Processing (ICASSP)*, 2013.
33. Gary Huang, Marwan Mattar, Honglak Lee, Erik Learned-Miller. Learning to Align from Scratch. In *Advances in Neural Information Processing Systems (NIPS)*, 2012.
34. Kihyuk Sohn and Honglak Lee. Learning Invariant Representations with Local Transformations. In *Proceedings of the 29th International Conference on Machine Learning (ICML)*, 2012.
35. Gary Huang, Honglak Lee, and Erik Learned-Miller. Learning Hierarchical Representations for Face Verification with Convolutional Deep Belief Networks. In *Proceedings of the IEEE Conference on*

Computer Vision and Pattern Recognition (CVPR), 2012.

36. Min Sun, Murali Telaprolu, Honglak Lee, and Silvio Savarese. An Efficient Branch-and-Bound Algorithm for Optimal Human Pose Estimation. In *Proceedings of the IEEE Conference on Computer Vision and Pattern Recognition (CVPR)*, 2012.
37. Guanyu Zhou, Kihyuk Sohn, and Honglak Lee. Online Incremental Feature Learning with Denoising Autoencoders. In *Proceedings of the International Conference on Artificial Intelligence and Statistics (AISTATS)*, 2012. **Oral presentation**
38. Caoxie Zhang, Honglak Lee, and Kang G. Shin. Efficient Distributed Linear Classification Algorithms via the Alternating Direction Method of Multipliers. In *Proceedings of the International Conference on Artificial Intelligence and Statistics (AISTATS)*, 2012.
39. Min Sun, Murali Telaprolu, Honglak Lee, and Silvio Savarese. Efficient and Exact MAP Inference using Branch and Bound. In *Proceedings of the International Conference on Artificial Intelligence and Statistics (AISTATS)*, 2012.
40. Kihyuk Sohn, Dae Yon Jung, Honglak Lee, and Alfred Hero III. Efficient Learning of Sparse, Distributed, Convolutional Feature Representations for Object Recognition. In *Proceedings of 13th International Conference on Computer Vision (ICCV)*, 2011.
41. Honglak Lee, Roger Grosse, Rajesh Ranganath, and Andrew Ng. Unsupervised Learning of Hierarchical Representations with Convolutional Deep Belief Networks. *Communications of the ACM, vol. 54, no. 10, pp. 95-103*, 2011. **Research Highlights**
42. Juhan Nam, Jiquan Ngiam, Honglak Lee and Malcolm Slaney, A Classification-Based Polyphonic Piano Transcription Approach Using Learned Feature Representations. In *Proceedings of the International Conference on Music Information Retrieval (ISMIR)*, 2011.
43. Jiquan Ngiam, Aditya Khosla, Mingyu Kim, Juhan Nam, Honglak Lee and Andrew Y. Ng. Multimodal Deep Learning. In *Proceedings of the International Conference on Machine Learning (ICML)*, 2011.
44. Adam Coates, Honglak Lee and Andrew Y. Ng. An Analysis of Single-Layer Networks in Unsupervised Feature Learning. In *Proceedings of the International Conference on Artificial Intelligence and Statistics (AISTATS)*, 2011.
45. A. Khosla, Y. Cao, C. C. Lin, H.-K. Chiu, J. Hu, and H. Lee. An integrated machine learning approach to stroke prediction. Proceedings of *the 16th ACM SIGKDD International Conference on Knowledge Discovery and Data Mining (KDD)*, 2010.
46. H. Lee, Y. Largman, P. Pham, and A. Y. Ng. Unsupervised feature learning for audio classification using convolutional deep belief networks. In *Advances in Neural Information Processing Systems 22 (NIPS)*, 2010.
47. I. J. Goodfellow, Q. V. Le, A. M. Saxe, H. Lee, and A. Y. Ng. Measuring invariances in deep networks. In *Advances in Neural Information Processing Systems 22 (NIPS)*, 2010.
48. H. Lee, R. Grosse, R. Ranganath, and A. Y. Ng. Convolutional deep belief networks for scalable unsupervised learning of hierarchical representations. In *Proceedings of the* 26th *International Conference on Machine Learning (ICML)*, 2009. **Best paper award: Best application paper**
49. H. Lee, R. Raina, A. Teichman, and A. Y. Ng. Exponential family sparse coding with application to self-taught learning. In *Proceedings of the 21st International Joint Conference on Artificial Intelligence (IJCAI)*, 2009.
50. H. Lee, C. Ekanadham, and A. Y. Ng. Sparse deep belief net model for visual area V2. In *Advances in the Neural Information Processing Systems 20 (NIPS)*, 2008.

51. R. Raina, A. Battle, H. Lee, B. Packer, and A. Y. Ng. Self-taught learning: Transfer learning from unlabeled data. In *Proceedings of the 24th International Conference on Machine Learning (ICML)*, 2007.
52. H. Lee, A. Battle, R. Raina, and A. Y. Ng. Efficient sparse coding algorithms. In *Advances in Neural Information Processing Systems 19 (NIPS)*, 2007.
53. P. T. McGrath, H. Lee, L. Zhang, A. A. Iniesta, A. K. Hottes, M. H. Tan, N. J. Hillson, P. Hu, L. Shapiro, and H. H. McAdams. High-throughput identification of transcription start sites, conserved promoter motifs, and predicted regulons. *Nature Biotechnology* 25, pp 584-592, 2007.
54. S.-I. Lee, H. Lee, P. Abbeel, and A. Y. Ng. Efficient L1 regularized logistic regression. In *Proceedings of the 21st National Conference on Artificial Intelligence (AAAI)*, 2006.
55. H. Lee, Y. Shen, C.-H. Yu, G. Singh, and A. Y. Ng. Quadruped robot obstacle negotiation via reinforcement learning. In *Proceedings of the IEEE International Conference on Robotics and Automation (ICRA)*, 2006.
56. E. Delage, H. Lee, and A. Y. Ng. A dynamic Bayesian network model for autonomous 3d reconstruction from a single indoor image. In *Proc. of the IEEE Conference on Computer Vision and Pattern Recognition (CVPR)*, 2006.
57. E. Delage, H. Lee, and A. Y. Ng. Automatic single-image 3d reconstructions of indoor Manhattan world scenes. In *Proceedings of the 12th International Symposium of Robotics Research (ISRR)*, 2005.
58. H. Lee and A. Y. Ng. Spam deobfuscation using a hidden Markov model. In *Proceedings of the Second Conference on Email and Anti-Spam (CEAS)*, 2005. **Best student paper award**

REFEREED WORKSHOP PAPERS

1. Scott Reed, Honglak Lee, Dragomir Anguelov, Christian Szegedy, Dumitru Erhan, Andrew Rabinovich. Training Deep Neural Networks on Noisy Labels with Bootstrapping. In the *Workshop at the International Conference on Learning Representation (ICLR)*, 2015.
2. Scott Reed, Honglak Lee. Learning Deep Representations via Multiplicative Interactions between Factors of Variation. In the *NIPS Workshop on Deep Learning*, 2013.
3. Roni Mittelman, Benjamin Kuipers, Silvio Savarese, Honglak Lee. Structured Recurrent Temporal Restricted Boltzmann Machines. In the *NIPS Workshop on Deep Learning*, 2013.
4. Ian Lenz, Honglak Lee, Ashutosh Saxena. Deep Learning for Detecting Robotic Grasps. In the *Workshop at the International Conference on Learning Representation (ICLR)*, 2013.
5. Kihyuk Sohn, Guanyu Zhou, Honglak Lee. Jointly Learning and Selecting Features via Conditional Point-wise Mixture RBMs. In the *NIPS Workshop on Deep Learning and Unsupervised Feature Learning*, 2012.
6. Sung H. Chung, Anjan Goswami, Honglak Lee, and Junling Hu. The impact of images on user clicks in product search. In the *International Workshop on Multimedia Data Mining*, 2012.
7. Guanyu Zhou, Kihyuk Sohn, Honglak Lee. Online Incremental Feature Learning with Denoising Autoencoders. In the *NIPS Workshop on Deep Learning and Unsupervised Feature Learning*, 2011.
8. Jiquan Ngiam, Aditya Khosla, Mingyu Kim, Juhan Nam, Honglak Lee and Andrew Y. Ng. Multimodal Deep Learning. In the *NIPS Workshop on Deep Learning and Unsupervised Feature Learning*, 2010.
9. Adam Coates, Honglak Lee and Andrew Y. Ng. An Analysis of Single-Layer Networks in Unsupervised Feature Learning. In the *NIPS Workshop on Deep Learning and Unsupervised Feature Learning*, 2010.
10. Honglak Lee, Rajat Raina, Alex Teichman, and Andrew Y. Ng. Exponential family sparse coding with

application to self-taught learning with text documents. In the *ICML Workshop on Prior Knowledge for Text and Language*, 2008.

TEACHING

Winter 2016	EECS 203: Discrete Mathematics, University of Michigan
Fall 2015	EECS 445: Introduction to Machine Learning, University of Michigan
Winter 2015	EECS 203: Discrete Mathematics, University of Michigan
Fall 2014	EECS 445: Introduction to Machine Learning, University of Michigan
Fall 2013	EECS 445: Introduction to Machine Learning, University of Michigan
Winter 2013	EECS 545: Machine Learning, University of Michigan
Winter 2012	EECS 545: Machine Learning, University of Michigan
Fall 2011	EECS 203: Discrete Mathematics, University of Michigan
Winter 2011	EECS 545: Machine Learning, University of Michigan
Fall 2010	EECS 598: Unsupervised Feature Learning, University of Michigan
Fall 2008	Teaching Assistant for CS229: Machine Learning, Stanford University
Fall 2007	Teaching Assistant for CS221: Artificial Intelligence, Stanford University

PROFESSIONAL ACTIVITIES

- **Journal Editor:**
  - Associate Editor, IEEE-TPAMI
  - Editorial Board Member, Neural Networks
  - Guest Editor of IEEE-TPAMI Special Issue on "Learning Deep Architectures"
  - Guest Editor of Neural Networks Special Issue on “Deep Learning of Representations”
- **Senior Program Committee:**
  - Area Chair, IEEE Conference on Computer Vision and Pattern Recognition (CVPR), 2017.
  - Area Chair, Neural Information Processing Systems (NIPS), 2016.
  - Area Chair, International Conference on Machine Learning (ICML), 2016.
  - Area Chair, European Conference on Computer Vision (ECCV), 2016.
  - Area Chair, International Conference on Learning Representations (ICLR), 2016.
  - Senior Program Committee Member, International Joint Conference on Artificial Intelligence (IJCAI), 2016.
  - SPC Member, AAAI Conference on Artificial Intelligence (AAAI), 2016.
  - Area Chair, Neural Information Processing Systems (NIPS), 2015.
  - Area Chair, International Conference on Machine Learning (ICML), 2015.
  - Area Chair, International Conference on Computer Vision (ICCV), 2015.
  - Senior Program Committee Member, International Joint Conference on Artificial Intelligence (IJCAI), 2015.
  - Area Chair, Neural Information Processing Systems (NIPS), 2014.
  - Area Chair, International Conference on Machine Learning (ICML), 2014.
  - Area Chair, International Conference on Machine Learning (ICML), 2013.
- **Journal Reviewer:**
  - Journal of Machine Learning Research (JMLR)

- Machine Learning (MLJ)
- Neural Computation
- International Journal of Computer Vision (IJCV)
- IEEE Transactions on Pattern Analysis and Machine Intelligence (IEEE-TPAMI)
- IEEE Transactions on Knowledge and Data Engineering (IEEE-TKDE)
- IEEE Transactions on Audio, Speech and Language Processing (IEEE-TASL)
- ACM Transactions on Intelligent Systems and Technology (ACM TIST).
- Proceedings of the IEEE

- **Conference Program Committee/Reviewer:**
  - International Conference on Machine Learning (ICML): 2009-2016
  - Conference on Neural Information Processing Systems (NIPS): 2010-2016
  - International Conference on Artificial Intelligence and Statistics (AISTSTS): 2011-2015
  - International Conference on Learning Representations (ICLR): 2013, 2015-2017
  - IEEE Conference on Computer Vision and Pattern Recognition (CVPR): 2010-2017
  - International Conference on Computer Vision (ICCV): 2011, 2013, 2015
  - European Conference on Computer Vision (ECCV): 2010, 2012, 2014, 2016
  - Conference on Uncertainty in Artificial Intelligence (UAI): 2009
  - National Conference on Artificial Intelligence (AAAI): 2014, 2015-2016
  - Robotics: Science and Systems (RSS): 2014
  - International Conference on Music Information Retrieval (ISMIR): 2013
- **Workshop/Tutorial/Symposium Organizer:**
  - NIPS 2015 Symposium on Deep Learning
  - CVPR 2014 Tutorial on Deep Learning for Vision
  - AAAI 2013 Spring Symposium on Life-long Machine Learning
  - CVPR 2012 Tutorial on Deep Learning Methods for Vision
  - ICML 2011Workshop on Learning Architectures, Representations, and Optimization for Speech and Visual Information Processing
  - NIPS 2010Workshop on Deep Learning and Unsupervised Feature Learning
- **Workshop Program Committee:**
  - NIPS 2016 Symposium on Deep Learning
  - ECCV 2016 Workshop on Action and Anticipation for Visual Learning
  - ECCV 2016 Workshop on Geometry Meets Deep Learning
  - IJCAI 2016 Workshop on Deep Reinforcement Learning
  - ICML 2015 Workshop on Deep Learning
  - MICCAI 2015 Workshop on Deep Learning in Medical Image Analysis
  - NIPS 2014 Workshop on Deep Learning
  - CVPR 2014 Workshop on Big Vision
  - NIPS 2013 Workshop on Deep Learning
  - ICML 2013 Workshop on Theoretically Grounded Transfer Learning
  - CVPR 2013 Scene Understanding Workshop
  - NIPS 2011 Workshop on Deep Learning and Unsupervised Feature Learning
  - AAAI 2011 Workshop on Lifelong Learning from Sensorimotor Experience
  - ICDM 2011 Workshop on Mining Multiple Information Sources

- NIPS 2009 Workshop on Transfer Learning for Structured Data

- **Invited Talks/Presentations:**
  - Stanford AI Distinguished Speaker Series (11/2016)
  - MIT Machine Learning Colloquium (11/2016)
  - ECCV Workshop on Geometry Meets Deep Learning (10/2016)
  - ECCV Workshop on Action and Anticipation for Visual Learning (10/2016)
  - Google Brain, Mountain View (8/2016)
  - Facebook AI Research (7/2016)
  - Baidu Research, Silicon Valley AI Lab (7/2016)
  - JASON Study on General Artificial Intelligence (7/2016)
  - CVPR SUNw: Scene Understanding Workshop (6/2016)
  - ICML Workshop on Multi-View Representation Learning (6/2016)
  - Mitsubishi Electronics Research Laborary 25th Anniversary Symposium (6/2016)
  - Deep Learning Summit at Boston (5/2016)
  - ONR Workshop on Structured Learning for Scene Understanding (4/2016)
  - University of Texas, Austin. AI Seminar (4/2016)
  - Google Machine Learning Workshop, New York (3/2016)
  - University of Pennsylvania. GSRAP Lab Seminar (3/2016)
  - Google DeepMind, London. (1/2016)
  - IBM Thomas J. Watson Research Center. (12/2015)
  - NIPS Workshop on Deep Reinforcement Learning (12/2015)
  - CIFAR Workshop on Neural Computation and Adaptive Perception (12/2015)
  - University of Michigan Biostatistics Seminar (11/2015)
  - CIFAR Deep Learning Summer School (8/2015)
  - INRIA, Paris. (7/2015)
  - Procter and Gamble. (7/2015)
  - Qualcomm Research. (12/2014)
  - NIPS Workshop on Representation and Learning Methods for Complex Outputs (12/2014)
  - CIFAR Workshop on Neural Computation and Adaptive Perception (12/2014)
  - University of California, Berkeley. AI Seminar (10/2014)
  - University of Washington, Seattle. AI Seminar (10/2014)
  - Amazon, Seattle. (10/2014)
  - Ohio State University. Computer Science and Engineering Colloquium (10/24)
  - ONR Workshop on Structured Learning for Scene Understanding (10/2014)
  - International Workshop on Computer Vision (5/2014)
  - CIFAR Workshop on Neural Computation and Adaptive Perception (12/2013)
  - Ford Research and Innovation Center. (11/2013)
  - Cornell University. AI Seminar (10/2013)
  - University of Rochester. Computer Science Colloquium (10/2013)
  - Microsoft Faculty Summit (7/2013)
  - Stanford University. AI Seminar (6/2013)
  - Google Research, Mountain View. (6/2013)
  - The 4th University of Michigan Workshop on Data, Text, Web, and Social Network Mining

(4/2013)
    - Air Force Research Lab. (3/2013)
    - University of Illinois at Urbana-Champaign. Neuroengineering Seminar (2/2013)
    - Distinguished Lecture Series for Machine Learning, Institute of Electronics Engineers of Korea (IEEK) (1/2013)
    - Seoul National University. (1/2013)
    - Seoul National University-University of Michigan Joint Workshop (1/2013)
    - The 13th KOCSEA Technical Symposium (12/2012)
    - The 3nd University of Michigan Workshop on Data, Text, Web, and Social Network Mining (4/2012)
    - NIPS 2011 Workshop on Unsupervised Feature Learning and Deep Learning (12/2011)
    - DARPA Workshop on Mathematical Foundations of Deep Learning (6/2011)
    - The Midwest Computer Vision Workshop (5/2011)
    - The 2nd University of Michigan Workshop on Data, Text, Web, and Social Network Mining (4/2011)
    - University of California, Berkeley. AI Seminar (6/2010)
    - Stanford University, Center for Computer Research in Music and Acoustics. (4/2010)
    - New York University, Computer Science Department Colloquium (4/2010)
    - Toyota Technological Institute, Chicago. (4/2010)
    - Microsoft Research, Redmond. (3/2010)
    - University of Michigan, Computer Science and Engineering Colloquium (3/2010)
    - Stony Brook University, Computer Science Colloquium (3/2010)
    - NIPS 2009 Workshop on Deep Learning for Speech Recognition and Related Applications (12/2009)
    - NEC Laboratories America. (8/2009)
- **Proposal Reviewing:**
    - National Science Foundation (NSF), 2015
    - National Science Foundation (NSF), 2014
    - National Science Foundation (NSF), 2013
    - Israel Science Foundation (ISF), Israel, 2014
    - Natural Sciences and Engineering Research Council (NSERC), Canada, 2014
    - Natural Sciences and Engineering Research Council (NSERC), Canada, 2013
    - Austrian Science Fund (FWF), Austria, 2012