



RESEARCH POSITIONS

Research Scientist II August 2017 to Present
School of Interactive Computing
at Georgia Institute of Technology

PAST POSITIONS

Bradley Postdoctoral Associate August 2016 to August 2017
Machine Learning & Perception Group
at Virginia Tech with Dhruv Batra

Research Assistant May 2012 to August 2016
School of Informatics and Computing,
at Indiana University with David Crandall

Visiting Research Assistant August 2015 to November 2015
Machine Learning & Perception Group
at Virginia Tech with Dhruv Batra

Visiting Research Assistant May 2014 to August 2014
INRIA - WILLOW Project
at L'cole Normale Superiure and UC Berkley with Josef Sivic and Alexei A. Efros.



EDUCATION

Ph.D., Computer Science – Indiana University 2016
Thesis: Data-Driven Computer Vision for Science and the Humanities
Committee: David Crandall (Chair), Chunfeng Huang, Predrag Radivojac, Michael Ryoo

M.S., Computer Science – Indiana University 2013

B.S., Computer Science – University of West Florida 2011



HONORS & AWARDS

- **Outstanding Reviewer Awards**
 - IEEE Conference on Computer Vision and Pattern Recognition (CVPR)** 2017
Recognition from areas chairs for quality reviewing (awarded to ~ 8.5% of reviewers).
 - IEEE International Conference on Computer Vision (ICCV)** 2017
Recognition from areas chairs for quality reviewing (awarded to ~ 4.6% of reviewers).

- Neural Information Processing Systems (NIPS)**

Recognition from areas chairs for quality reviewing (awarded to $\sim 3.6\%$ of reviewers).

2017
- **Best Paper Awards**

Conference on Empirical Methods in Natural Language Processing

One of 4 best papers (or top 0.26%) out of 1500 submissions (1466 reviewed, 323 accepted) to EMNLP 2017 which is a top venue for research on AI with natural language capabilities.

CVPR Workshop on Egocentric Vision

Awarded best papers (or top 7.6%) out of 13 accepted papers to the CVPR Workshop on Egocentric Vision, a core workshop for discussion of egocentric (or first-person) vision.

2017
- **Bradley Postdoctoral Fellowship (Virginia Tech)**

2016
- **HANDS Travel Award (CVPR)**

2016
- **Doctoral Consortium Travel Award (ICCV)**

2015
- **Dissertation Development Award (Indiana University)**

2015
- **Heidelberg Laureate Forum Acceptance (HLF Foundation)**

Selected as one of 200 young researchers by a committee of international researchers from mathematics, physics, and computer science to participate in a week-long forum alongside recipients of the Abel Prize, Turing Award, Fields Medal, or the Nevanlinna Prize.

2015



SELECTED PUBLICATIONS

Peer-Reviewed Conference Papers (acceptance rates typically 2-25%)

1. Abhishek Das, Samyak Datta, Georgia Gkioxari, Stefan Lee, Devi Parikh, Dhruv Batra. Embodied Question Answering. *IEEE Conference on Computer Vision and Pattern Recognition (CVPR)*, 2018. [[Oral Paper](#)].
2. Ashwin Vijayakumar, Michael Cogswell, Ramprasath Selvaraju, Qing Sun, Stefan Lee, David Crandall, and Dhruv Batra. Diverse Beam Search for Improved Description of Complex Scenes. *AAAI Conference on Artificial Intelligence (AAAI)*, 2018.
3. Abhishek Das*, Satwik Kottur*, Jos M.F. Moura, Stefan Lee, and Dhruv Batra. Learning Cooperative Visual Dialog Agents with Deep Reinforcement Learning. *IEEE International Conference on Computer Vision (ICCV)*, 2017. [[Oral Paper: 45/3220 = 1.4%](#)].
4. Satwik Kottur, Jos M.F. Moura, Stefan Lee, and Dhruv Batra. Natural Language Does Not Emerge 'Naturally' in Multi-Agent Dialog. *Conference on Empirical Methods in Natural Language Processing (EMNLP)*, 2017. [[Best Short Paper: 4/1500 = 0.26%](#)].
5. Aroma Mahendru*, Viraj Prabhu*, Akrit Mohapatra*, Dhruv Batra, and Stefan Lee. The Promise of Premise: Harnessing Question Premises in Visual Question Answering. *Conference on Empirical Methods in Natural Language Processing (EMNLP)*, 2017.
6. Viraj Prabhu, Prithvijit Chattopadhyay, Deshraj Yadav, Arjun Chandrasekaran, Abhishek Das, Stefan Lee, Dhruv Batra, and Devi Parikh. Evaluating Visual Dialog Agents via Cooperative Human-AI Games. *Proceedings of the Fifth AAAI Conference on Human Computation and Crowdsourcing (HCOMP)*, 2017.
7. Qing Sun, Stefan Lee, and Dhruv Batra. Bidirectional Beam Search: Forward-Backward Infer-

- ence in Neural Sequence Models for Fill-in-the-Blank Image Captioning. *IEEE Conference on Computer Vision and Pattern Recognition (CVPR)*, 2017.
8. Stefan Lee, Senthil Purushwalkam, Michael Cogswell, Viresh Ranjan, David J. Crandall, and Dhruv Batra. Stochastic Multiple Choice Learning for Training Diverse Deep Ensembles. *Neural Information Processing Systems (NIPS)*, 2016.
 9. Sven Bambach, Stefan Lee, David Crandall, Chen Yu, Lending A Hand: Detecting Hands and Recognizing Activities in Complex Egocentric Interactions. *IEEE International Conference on Computer Vision (ICCV)*, 2015.
 10. Stefan Lee, Nicolas Maisonneuve, David Crandall, Josef Sivic, Alexei A. Efros. Linking Past to Present: Discovering Style in Two Centuries of Architecture. *IEEE International Conference on Computational Photography (ICCP)*, 2015.
 11. Stefan Lee, Haipeng Zhang, David Crandall. Predicting Geo-informative Attributes in Large-scale Image Collections using Convolutional Neural Networks. *IEEE Winter Conference on Applications of Computer Vision (WACV)*, 2015.
 12. Stefan Lee, Sven Bambach, David Crandall, John Franchak, and Chen Yu. This Hand Is My Hand: A Probabilistic Approach to Hand Disambiguation in Egocentric Video. *IEEE Conference on Computer Vision and Pattern Recognition (CVPR), Workshop on Egocentric Vision*, 2014. **[Best Paper: 1/13 = 7.6%]**.
 13. Stefan Lee, Jerome Mitchell, David Crandall, and Geoffery Fox. Estimating Bedrock and Surface Layer Boundaries And Confidence Intervals In Ice Sheet Radar Imagery Using MCMC. *International Conference on Image Processing (ICIP)*, 2014.

Book Chapters

13. David J. Crandall, Yunpeng Li, Stefan Lee, and Daniel P. Huttenlocher. Recognizing Landmarks in Large-Scale Social Image Collections. Large-Scale Visual Geo-Localization. Ed. Amir R. Zamir, Asaad Hakeem, Luc Van Gool, Mubarak Shah, Richard Szeliski. Springer, 2016.

Extended Abstracts / Technical Reports

14. Amit Raj, Cusuh Ham, Huda Alamri, Vincent Cartillier, Stefan Lee, James Hays. *Compositional Generation of Images. NIPS Workshop on Visually-Grounded Interaction and Language*, 2017.
15. Ashwin K Vijayakumar, Michael Cogswell, Ramprasath R. Selvaraju, Qing Sun, Stefan Lee, David Crandall, Dhruv Batra. Diverse Beam Search: Decoding Diverse Solutions from Neural Sequence Models. arXiv, 2016.
16. Sven Bambach, Stefan Lee, David Crandall, John Franchak, Chen Yu. Tracking Hands of Interacting People in Egocentric Video. *IEEE Conference on Computer Vision and Pattern Recognition (CVPR), Workshop on Observing and Understanding Hands in Action*, 2015.
17. Stefan Lee, Senthil Purushwalkam, Michael Cogswell, David J. Crandall, Dhruv Batra. Why M Heads are Better than One: Training a Diverse Ensemble of Deep Networks. arXiv, 2015.
18. Stefan Lee and David Crandall. Learning to Identify Local Floral with Human Feedback. *IEEE Conference on Computer Vision and Pattern Recognition, Workshop on Computer Vision and Human Computation*, 2014.



TEACHING

- Georgia Institute of Technology
CS8903 - Special Problems **Fall 2017 - Present**
Working with the following Georgia Tech students: JingJing Pan, Madhuri Shanbhogue, Aditya Rajagopal, Sainandan Ramakrishnan, Anmol Kalia, Amit Raj, & Saurabh Kumar
- Virginia Tech
ECE5424 - Introduction to Machine Learning **Fall 2016**
- Indiana University
B659 - Image Processing and Recognition (Assistant Instructor) **Spring 2015**
I399 - Research Methods for Informatics and Computing (Mentor) **Fall 2013**
C211 - Introduction to CS (Assistant Instructor) **Fall 2011 - Spring 2013**



INVITED TALKS

- Towards Goal-Driven, Visually Grounded Dialog Agents
Carnegie Mellon University - VASC Seminar **2018**
Facebook AI Research (FAIR) - AI Seminar **2018**
University of Trento - DISI Seminar **2017**
Georgia Tech - Deep Learning Course **2017**
- Training Diverse Deep Ensembles
Diversity Meets Deep Networks - CVPR Tutorial **2016**



SERVICE

Regularly review or serve on the program committee for

- IEEE Computer Vision and Pattern Recognition (CVPR)
- IEEE International Conference on Computer Vision (ICCV)
- Neural Information Processing Systems (NIPS)
- International Conference on Learning Representations (ICLR)
- Social Network Analysis and Mining (Springer Journal)
- Image and Vision Computing (Elsevier Journal)

Workshop / Tutorial Organization

- VQA Challenge and Visual Dialog Workshop @ CVPR 2018
- Visually-Grounded Interaction and Language (ViGIL) Workshop @ NIPS 2017
- Diversity Meets Deep Networks Tutorial @ CVPR 2016