

Satwik Kottur

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Curriculum Vitae

Last updated: January 11, 2019

EDUCATION	<p>Carnegie Mellon University, Pittsburgh</p> <p><i>Ph.D.</i>, Department of Electrical and Computer Engineering 2014–2019 (Expected) <i>Master of Science</i>, Department of Electrical and Computer Engineering 2014–2017</p> <ul style="list-style-type: none">• Advisor: Prof. José M. F. Moura• Interests: Computer vision, deep learning, and artificial intelligence• GPA: 4.00/4 <p>Indian Institute of Technology Bombay, Mumbai</p> <p><i>Bachelor of Technology</i>, Department of Electrical Engineering, 2010–2014</p> <ul style="list-style-type: none">• Advisor: Prof. Subhasis Chaudhuri• Honors in Electrical Engineering, Minor in Computer Science and Engineering• GPA: 9.52/10
INTERNSHIPS	<p>Google Brain, Mountain View Summer ‘18 <i>Mentor: Prof. Gal Chechik</i> Worked on language emergence in a population of cooperative agents</p> <p>Facebook AI Research (FAIR), Menlo Park Summer ‘17 <i>Mentors: Marcus Rohrbach, Prof. Devi Parikh, Prof. Dhruv Batra</i> Worked on explicit visual coreference resolution in visual dialog</p> <p>Snap Research, Los Angeles Summer ‘16 <i>Mentors: Vitor Carvalho, Xiaoyu Wang</i> Worked on context-aware dialog models with user personalization</p> <p>University of Southern California, Los Angeles Summer ‘13 <i>Mentor: Prof. Gerard Medioni</i> Worked on counting static cars in the scene from aerial imagery</p>
AWARDS & ACHIEVEMENTS	<ul style="list-style-type: none">• Snap Inc. Research Fellowship (2018), 1 of 12 students from 100+ applicants• Best paper award, 1 of 4 best papers (top 0.26%) out of 1500 submissions at EMNLP 2017• Best reviewer award (top 3.6%) at Neural Information Processing Systems (NIPS), 2017 as a recognition from the area chairs for quality reviewing• Carnegie Institute of Technology Dean’s Fellowship (2014) to pursue graduate studies• Viterbi-India Scholarship (2013) to pursue research at Viterbi School of Engineering• Bronze medal at International Olympiad for Astronomy and Astrophysics (2010), Beijing• Secured AIR 6 in IITJEE - 2010 (achieved the best score in physics) among 470k students
PUBLICATIONS	<ol style="list-style-type: none">[1] CLEVR-Dialog: A Diagnostic Dataset for Multi-Round Reasoning in Visual Dialog. S. Kottur, J. M. F. Moura, D. Parikh, D. Batra, M. Rohrbach, <i>North American Chapter of the Association for Computational Linguistics (NAACL), 2019 (Under Review)</i>[2] Visual Coreference Resolution in Visual Dialog using Neural Module Networks. S. Kottur, J. M. F. Moura, D. Parikh, D. Batra, M. Rohrbach, <i>European Conference on Computer Vision (ECCV), 2018</i>[3] Natural Language Does Not Emerge ‘Naturally’ in Multi-Agent Dialog. S. Kottur, J. M. F. Moura, S. Lee, D. Batra, <i>Empirical Methods in Natural Language Processing (EMNLP), 2017 (Best Short Paper)</i>

- [4] **Deepsets.** M. Zaheer, S. Kottur, S. Ravanbakhsh, B. Póczos, R. Salakhutdinov, A. Smola, *Conference on Neural Information Processing Systems (NIPS), 2017 (Oral)*
- [5] **Learning Cooperative Visual Dialog Agents with Deep Reinforcement Learning.** A. Das*, S. Kottur*, J. M. F. Moura, S. Lee, D. Batra, *International Conference on Computer Vision (ICCV), 2017 (Oral)*
- [6] **Canopy—Fast Sampling with Cover Trees.** M. Zaheer*, S. Kottur*, J. M. F. Moura, A. Ahmed, A. Smola, *International Conference on Machine Learning (ICML), 2017 (Oral)*
- [7] **Exploring Personalized Neural Conversational Models.** S. Kottur, X. Wang, V. Carvalho, *International Joint Conference on Artificial Intelligence (IJCAI), 2017*
- [8] **Visual Dialog.** A. Das, S. Kottur, K. Gupta, A. Singh, D. Yadav, J. M. F. Moura, D. Parikh, D. Batra, *IEEE Conference on Computer Vision and Pattern Recognition (CVPR), 2017 (Spotlight)*
- [9] **Visual Word2Vec (vis-w2v): Learning Visually Grounded Word Embeddings from Abstract Scenes.** S. Kottur, R. Vedantam, J. M. F. Moura, D. Parikh, *IEEE Conference on Computer Vision and Pattern Recognition (CVPR), 2016*
- [10] **Comparing Gibbs, EM and SEM for MAP Inference in Mixture Models.** M. Zaheer, M. Wick, S. Kottur, J. Tristan, *OPT: NIPS Workshop on Optimization for Machine Learning, 2015*
- [11] **Traffic Flow from a Low Frame Rate City Camera.** E. Toropov, L. Gui, S. Zhang, S. Kottur, J. M. F. Moura, *Big Data Processing and Analysis (special session), IEEE International Conference on Image Processing (ICIP), 2015*

JOURNALS

- [1] **Visual Dialog.** A. Das, S. Kottur, K. Gupta, A. Singh, D. Yadav, S. Lee, J. M. F. Moura, D. Parikh, D. Batra, *IEEE Transactions on Pattern Analysis and Machine Intelligence (PAMI), 2018*
* = equal contribution

OTHER ACADEMIC & PROFESSIONAL EXPERIENCES

Reviewer, CVPR 2019, CVPR 2018, ECCV 2018, ICML 2018, NIPS 2018, NIPS 2017 (**best reviewer award**), NIPS 2016

Workshop Organizer

- Visually-Grounded Interaction and Language (ViGIL) Workshop, *Conference on Neural Information Processing Systems (NIPS), 2017*
- VQA Challenge and Visual Dialog Workshop, *IEEE Conference on Computer Vision and Pattern Recognition (CVPR), 2018*

Challenge Organizer

- Visual Dialog Challenge, Workshop on Shortcomings in Vision and Language, *European Conference on Computer Vision (ECCV), 2018*

Teaching Assistant

- Convex Optimization (18-460), Carnegie Mellon University **Spring '18**
Instructors: Prof. Giulia Fanti
- Signals and Systems (18-290), Carnegie Mellon University **Fall '17**
Instructors: Prof. Aswin Sankaranarayanan and Prof. Richard Stern
- Differential Equations (MA-108), IIT Bombay **Spring '14**
Instructors: Prof. Akhil Ranjan