

EDUCATION

- **University of Illinois, Urbana-Champaign**
Ph.D. Machine Learning and Computer Vision: GPA: 3.88 *Dec. 2015 - Present*
 - **Research Interests:** My research is centered around developing architectures and algorithms for generating high-quality, diverse outputs for the tasks of image-captioning and image-generation.
Advisor: Dr. Alexander Schwing
- **University of Illinois, Urbana-Champaign**
Master of Science in Physics; GPA: 3.80 *Dec 2015*
 - Research in computational condensed matter physics. Advisor: Dr. Bryan Clark.
- **Indian Institute of Technology, Kanpur**
Master of Science in Physics; GPA: 9.2/10 *Jul 2012*

PUBLICATIONS

- **Image Captioning Diversity under the Radar:** Xiaoming Zhao, Jyoti Aneja, Harsh Agrawal, Alexander Schwing. *Under Submission*
- **NCP-VAE: Variational Autoencoders with Noise Contrastive Priors:** Jyoti Aneja, Alexander Schwing, Jan Kautz, Arash Vahdat. *Under Submission*
- **Sequential Latent Spaces for Modeling the Intention During Diverse Image Captioning:** Jyoti Aneja*, Harsh Agrawal*, Dhruv Batra, Alexander Schwing. **Accepted at ICCV 2019**
- **1st Runner-up in the Text-VQA Challenge-2019:** Harsh Agrawal, Jyoti Aneja, Maghav Kumar, Alexander Schwing. **Organized at the VQA Workshop at CVPR 2019**
- **Fast, Diverse and Accurate Image Captioning Guided By Part-of-Speech:** Aditya Deshpande*, Jyoti Aneja*, Liwei Wang, Alexander Schwing, David Forsyth. **Accepted at CVPR 2019 [ORAL]**
- **Convolutional Image Captioning:** Jyoti Aneja*, Aditya Deshpande*, Alexander Schwing. **Accepted at CVPR 2018**
- **Gauge Symmetry of the 2 Dimensional Quantum Spin Liquid in Quantum Kagome Ice:** Jyoti Aneja, Bryan Clark; International Summer School on Computational Quantum Materials 2016 -University of Sherbrooke
- **Negative Ion Rich Plasmas in Continuous and Pulsed Wave Modes in a Minimum-B Magnetic Field:** Debaprasad Sahu, Shail Pandey Jyoti Aneja, Sudeep Bhattacharjee; American Institute of Physics-Physics of Plasmas
* : equal contribution

INDUSTRY EXPERIENCE

- **NVIDIA Research** Santa Clara, CA
Summer Internship *June 2020 - August 2020*
 - **NCP-VAE: Variational Autoencoders with Noise Contrastive Priors:** We address the prior hole problem in VAEs using an energy-based prior, trained with noise contrastive estimation. Mentor: Dr. Arash Vahdat, Dr. Jan Kautz
- **Microsoft Research** Redmond, WA
Summer Internship *May 2019 - Aug 2019*

- **Captioning in the Wild:** Worked on developing image captioning models for novel image captioning i.e. describing scenes and objects that were not seen at all during training. Mentor: Dr. Neel Joshi, Dr. Besmira Nushi, Dr. Kenneth Tran, Dr. Hamid Palangi

- **Snap Research**

Los Angeles, CA

- *Summer Internship*

May 2018 - Aug 2018

- **Captioning and Graph Convolutions:** Worked on using graph convolution networks to improve diversity in the descriptions generated by current captioning models. Mentors: Dr. Ning Zhang, Ziyu Zhang

AWARDS AND RECOGNITION

- **Session Chair:** Applied Machine Learning, CSL Student Conference, UIUC-2019
- **Departmental Travel Awards:** Awarded thrice. Once to present CS paper at CVPR-2018 and twice for presenting physics research at Princeton University and University of Sherbrooke, Canada.
- **Excellent TA - UIUC:** Awarded several times for CS and Physics courses
- **Academic Excellence award:** Best Graduating Student, IIT-Kanpur.
- **DST-DFG award:** Awarded by the Department of Science And Technology, Government of India and German Research Foundation, selected for participating in meeting of The Nobel Laureates Students at Lindau, Germany.

ACADEMIC DUTIES

- **Conference Reviewer:** NeurIPS, CVPR, ICCV, ECCV, ICLR, IJCV(Journal), WICV-CVPR(Workshop)
- **Teaching Assistant - CS:** Machine Learning, Applied Machine Learning, Numerical Methods, Data Structures Assisted in creating theory and coding assignments. Conducted weekly office hours to help students with home works and concepts.
- **Teaching Assistant - Physics:** Classical Mechanics, Quantum Mechanics, Electrodynamics, Statistical Physics. Conducted weekly office hours involving blackboard teaching and tutorial sessions.