

VARUN JAMPANI

Research Scientist, NVIDIA Research
2 Technology Park Dr.
Westford, Massachusetts, USA, 01886

vjampani@nvidia.com
<http://varunjampani.github.io>
Phone: +1-6032902866

Objective

I would like to do pioneering work in the field of my interest and gain satisfaction. I would also like to benefit the organization providing me with such opportunities, society and environment; and thus making this world a better place.

Education

Max-Planck Institute for Intelligent Systems and University of Tübingen, Tübingen, Germany (Jan'13 – Dec'16)
Doctor of Philosophy (*PhD*) in computer vision and machine learning (*summa cum laude*)
Thesis Title: Learning Inference Models for Computer Vision

International Institute of Information Technology, Hyderabad (IIIT-H), India (July'09 - Dec '12)
Master of Science (*MS*) by Research in computer sciences
Thesis Title: A Study of X-ray Image Perception for Pneumoconiosis Detection

International Institute of Information Technology, Hyderabad (IIIT-H), India (July '05 – May '09)
Bachelor of Technology (*BTech*) with Honours in computer sciences (CGPA: **9.68/10.0**)
Gold Medalist and member of **Dean's list*** for all the semesters

Work Experience

Research

- **Nvidia Research, Westford, USA**
Research Scientist (July'17 – *Till date*)
Learning techniques for computer vision applications.
- **Microsoft Research, Cambridge, UK**
Research Intern (July'14 – Oct'14)
Consensus message passing technique for making Infer.NET viable for solving vision problems.
- **Max Planck Institute for Intelligent Systems, Tübingen, Germany**
Visiting Researcher (July'12 – Oct'12)
Explored different ways of white balancing an image illuminated with multiple colored light sources.
- **Microsoft Research, Redmond, USA**
Research Intern (Aug'09 – Oct'09)
Developed novel interfaces for web image search results using Silverlight.
- **Microsoft Advanced Technology Labs, Cairo, Egypt**
Research Assistant (April'12 – July'12)
Developed an image classification system to index web images.
- **GE Global Research, Bengaluru, India**
Research Intern (May'09 – July'09)
Analyzed experimental data for our perception studies on Pneumoconiosis diagnosis.
- **Cognitive Sciences Lab, IIIT-Hyderabad, Hyderabad, India**
Research Assistant (July'08 – Dec'08)
Did experiments to test the usability of different pages on a famous Indian web portal.

Software Development

- **Crypsis Technologies, Hyderabad, India**
Software Development Engineer (Aug '11 – Feb '12)
Developed a web browser based service for mobile website testing using Objective C, Ruby etc...
- **Medical Imaging Solutions, Hyderabad, India**
Software Development Engineer (Dec '10 – March '11)
Developed a DICOM communications and download monitor tool using QT-C++

Teaching Experience

- **IIIT-Hyderabad, Hyderabad, India**

* Dean's list comprises of all those students who show academic excellence in a particular semester.

Teaching Assistant for Computer Vision, Maths-1 and Maths-2 courses
Involved in conducting tutorial sessions, problem solving sessions and some mid-term exams

- **Tibetan Children's Village, Dharamsala, India**
Volunteer Teacher (Sept'10 – July'11)
Taught Mathematics, Physics and Biology for class-IX, X and XI students

Achievements and Awards

- Recipient of **summa cum laude** (highest honors) from the University of Tübingen for my PhD dissertation on "Learning Inference Models for Computer Vision".
- Recipient of **Outstanding Reviewer Awards** for my peer-reviewing work at CVPR'17 and ECCV'16.
- Recipient of **Gold Medal** for being first in my B.Tech. batch (out of around 180 students) at IIIT-Hyderabad.
- Recipient of prestigious **Pratibha Scholarship award** given by the state government of Andhra Pradesh.
- Secured All India Rank of **121** (out of over 700 thousand students) in All India Engineering Entrance Examination (AIEEE-05) and State Rank of **306** (out of over 150 thousand students) in Engineering, Agriculture and Medicine Common Entrance Test (EAMCET-05).
- Recipient of **CBSE Scholarship** for my university studies given by the central government of India.
- Recipient of **National merit scholarship** and **State merit scholarship** awards given by the central and state governments of India respectively for my academic performances in 10th and 12th standards.
- Selected as a member of **Doctoral Consortium** at CVPR, 2016.
- Selected as **one of the 50 finalists** from all over the India for **Reliance-Stanford scholarship 2011**.
- Selected by the **Ministry of Youth Affairs and Sports**, Government of India in 100-member **Youth delegation to China** (15th June '09 - 24th June '09).

Publications/Conferences

- **SPLATNet: Sparse Lattice Networks for Point Cloud Processing**
H. Su, V. Jampani, D. Sun, S. Maji, E. Kalogerakis, M-H. Yang and J. Kautz
In *Computer Vision and Pattern Recognition, CVPR-2018 (oral)*.
URL: <https://arxiv.org/abs/1802.08275.pdf>
- **Super SloMo: High Quality Estimation of Multiple Intermediate Frames for Video Interpolation**
H. Jiang, D. Sun, V. Jampani, M-H. Yang, E. Learned-Miller and J. Kautz
In *Computer Vision and Pattern Recognition, CVPR-2018 (spotlight)*.
URL: <https://arxiv.org/abs/1712.00080.pdf>
- **Learning Superpixels with Segmentation-Aware Affinity Loss**
W-C. Tu, M-Y. Liu, V. Jampani, D. Sun, S-Y. Chien, M-H. Yang and J. Kautz
In *Computer Vision and Pattern Recognition, CVPR-2018*.
URL: *coming soon*
- **Semantic Video CNNs through Representation Warping**
R. Gadde, V. Jampani and P. V. Gehler
In *International Conference on Computer Vision, ICCV-2017 (oral)*.
URL: <https://arxiv.org/pdf/1708.03088.pdf>
- **Video Propagation Networks**
V. Jampani, R. Gadde and P. V. Gehler
In *Computer Vision and Pattern Recognition, CVPR-2017*.
URL: <https://arxiv.org/pdf/1612.05478.pdf>
- **Efficient 2D and 3D Facade Segmentation Using Auto-Context**
R. Gadde*, V. Jampani*, R. Marlet and P. V. Gehler (*equal contribution)
In *Pattern Analysis and Machine Intelligence, PAMI-2017*.
URL: <https://arxiv.org/pdf/1606.06437.pdf>
- **Superpixel Convolutional Networks using Bilateral Inceptions**
R. Gadde*, V. Jampani*, M. Kiefel, D. Kappler and P. V. Gehler (*equal contribution)
In *European Conference on Computer Vision, ECCV-2016*.
URL: <http://arxiv.org/pdf/1511.06739.pdf>
- **Learning Sparse High Dimensional Filters: Image Filtering, Dense CRFs and Bilateral Neural Networks**
V. Jampani, M. Kiefel and P. V. Gehler
In *Computer Vision and Pattern Recognition, CVPR-2016*.

URL: <http://arxiv.org/pdf/1503.04949.pdf>

- **Optical Flow with Semantic Segmentation and Localized Layers**
L. Sevilla, D. Sun, V. Jampani and M. J. Black
In *Computer Vision and Pattern Recognition, CVPR-2016*.
URL: <https://arxiv.org/pdf/1603.03911.pdf>
- **Consensus Message Passing for Layered Graphical Models**
V. Jampani*, S. M. A. Eslami*, D. Tarlow, P. Kohli and J. Winn (*equal contribution)
In *International Conference on Artificial Intelligence and Statistics, AISTATS-2015*.
URL: <http://arxiv.org/abs/1410.7452.pdf>
- **The Informed Sampler: A Discriminative Approach to Bayesian Inference in Generative Computer Vision Models**
V. Jampani, S. Nowozin, M. Loper and P. V. Gehler
In *Computer Vision and Image Understanding, Special Issue on Generative Models in Computer Vision-2015*.
URL: <http://arxiv.org/pdf/1402.0859.pdf>
- **Permutohedral Lattice CNNs**
M. Kiefel, V. Jampani and P. V. Gehler
In *International Conference on Learning Representations Workshop, 2015*.
URL: <http://arxiv.org/pdf/1412.6618.pdf>
- **Efficient Façade Segmentation using Auto-Context**
V. Jampani*, R. Gadde* and P. V. Gehler (*equal contribution)
In *Winter Conference on Applications of Computer Vision, WACV-2015*.
URL: http://files.is.tue.mpg.de/vjampani/jampani15_wacv.pdf
- **Assessment of Computational Visual Attention Models on Medical Images**
V. Jampani, Ujjwal, J. Sivaswamy and V. Vaidya
In *Indian Conference on Computer Vision, Graphics and Image Processing, ICGIP-2012*.
URL: <http://dl.acm.org/citation.cfm?id=2425413>
- **Effect of Expertise and Contralateral Symmetry on the Eye Movements of Observers while Diagnosing Pneumoconiosis**
V. Jampani, V. Vaidya, J. Sivaswamy, P. Ajamba and K. L. Tourani
In *XIV Medical Image Perception Society Conference (Oral and MIPS Scholarship recipient), 2011*.
- **Role of Expertise and Contralateral Symmetry in the Diagnosis of Pneumoconiosis: An Experimental Study**
V. Jampani, V. Vaidya, J. Sivaswamy and K. L. Tourani
In *Proc. of SPIE (Vol. 7966, pp. 79661K1), 2011*.
URL: <http://proceedings.spiedigitallibrary.org/proceeding.aspx?articleid=1349984>
- **ImageFlow: Streaming Image Search**
V. Jampani, G. Ramos and S. Drucker
Microsoft Research Technical Report (MSR-TR-2010-48), 2010.
URL: <http://research.microsoft.com/apps/pubs/default.aspx?id=141701>
News: *FastCompany* - <http://goo.gl/87cJZS>, *Inventing Interactive* - <http://goo.gl/0wcuQp>

Talks

- **Bilateral Neural Networks for Image, Video and 3D Vision**, Uni. of Massachusetts, Amherst, October, 2017.
- **Learning Bilateral Information Propagation across Pixels**, Nvidia Research, Santa Clara, June, 2016.
- **Learning to Propagate Information across Pixels**, Microsoft Research, Redmond, April, 2016.
- **Primed Message Passing for Layered Graphical Models**, Microsoft Research, Cambridge, October, 2014.
- **Inverting Graphic Engines using Informed Samplers**, IIIT-Hyderabad, Hyderabad, December, 2013.

Peer Reviewing

I am a reviewer for the following conferences and journals: CVPR (2017, 2018), NIPS (2015, 2017), ICCV (2017), ECCV (2016, 2018), ICML (2017, 2018), IMAVIS (2017), PAMI (2015, 2016, 2017, 2018), SIGGRAPH Asia (2017). I received 'Outstanding Reviewer' awards at CVPR (2017) and ECCV (2016).

Volunteering Experiences

Took one year break from studies and worked as a teacher at **Tibetan Children's Village**, Dharamsala, India from Sept'10 to July'11. While teaching, learnt some aspects of Tibetan culture such as basic language, cooking and dancing.

References

1. Prof. Jan Kautz, Senior Director, Nvidia, USA
Email: jkautz@nvidia.com; Website: <http://jankautz.com>
2. Prof. Peter V. Gehler, Scientist, Amazon, Germany
Email: pgehler@amazon.com; Website: <http://files.is.tue.mpg.de/pgehler/>
3. Dr. Sebastian Nowozin, Principal Researcher, Microsoft Research, Cambridge, UK
Email: sebastian.nowozin@microsoft.com; Website: <http://www.nowozin.net/sebastian/>

Varun Jampani, April 2018