

# ANKAN BANSAL

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## CURRENT RESEARCH INTERESTS

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Multi-modal Learning, Scene Understanding, Vision and Language

## EDUCATION

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**University of Maryland, College Park, MD, USA**

*August 2015 - present*

**Degree:** Ph.D., Electrical and Computer Engineering

**Advisor:** Rama Chellappa

**Indian Institute of Technology, Kanpur, India**

*July 2010 - June 2015*

**Degree:** B.Tech. and M.Tech. (Dual Degree), Electrical Engineering

**Advisor:** K S Venkatesh

## PUBLICATIONS

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### Visual Question Answering on Image Sets

*Ankan Bansal, Yuting Zhang, Rama Chellappa*

Under Submission

### Spatial Priming for Detecting Human-Object Interactions

*Ankan Bansal, Sai Saketh Rambhatla, Abhinav Shrivastava, Rama Chellappa*

Under Submission

### Removing Shortcuts and Resolving Scale Mismatch for Jigsaw

*Shlok Mishra, Anshul Shah, Ankan Bansal, Abhishek Sharma, Abhinav Shrivastava, David Jacobs*

Under Submission

### Detecting Human-Object Interactions via Functional Generalization

*Ankan Bansal, Sai Saketh Rambhatla, Abhinav Shrivastava, Rama Chellappa*

Thirty-Fourth AAAI Conference on Artificial Intelligence, 2020 (Accepted), [arXiv:1904.03181](#)

### How are attributes expressed in face DCNNs?

*Prithviraj Dhar, Ankan Bansal, Carlos D. Castillo, Joshua Gleason, P. Jonathon Phillips, Rama Chellappa*

Pre-print, [arXiv:1910.05657](#)

### A Fast and Accurate System for Face Detection, Identification, and Verification

*Rajeev Ranjan, Ankan Bansal, Jingxiao Zheng, Hongyu Xu, Joshua Gleason, Boyu Lu, Anirudh Nanduri,*

*Jun-Cheng Chen, Carlos D. Castillo, Rama Chellappa*

IEEE Transactions on Biometrics, Behavior, and Identity Science (T-BIOM), 2019 , [arXiv:1809.07586](#)

### Zero-Shot Object Detection

*Ankan Bansal, Karan Sikka, Gaurav Sharma, Rama Chellappa, Ajay Divakaran*

European Conference on Computer Vision (ECCV), 2018, [link](#)

### Crystal Loss and Quality Pooling for Unconstrained Face Verification and Recognition

*Rajeev Ranjan, Ankan Bansal, Hongyu Xu, Swami Sankaranarayanan, Jun-Cheng Chen, Carlos D Castillo,*

*Rama Chellappa*

Pre-print, [arXiv:1804.01159](#)

### Deep Features for Recognizing Disguised Faces in the Wild

*Ankan Bansal, Rajeev Ranjan, Carlos D. Castillo, Rama Chellappa*

IEEE Conference on Computer Vision and Pattern Recognition (CVPR) Workshops, 2018, [link](#)

### Predicting Dynamical Evolution of Human Activities from a Single Image

*Suhas Lohit, Ankan Bansal, Nitesh Schroff, Jaishanker Pillai, Pavan Turaga, Rama Chellappa*

IEEE Conference on Computer Vision and Pattern Recognition (CVPR) Workshops, 2018, [link](#)

### Proximity-Aware Hierarchical Clustering of Unconstrained Faces

*Wei-An Lin, Jun-Cheng Chen, Rajeev Ranjan, Ankan Bansal, Swami Sankaranarayanan, Carlos D. Castillo,*

*Rama Chellappa*

Image and Vision Computing (IVC), 2018

## UPSET and ANGRI: Breaking High Performance Image Classifiers

Sayantana Sarkar, *Ankan Bansal*, Upal Mahbub, Rama Chellappa

Pre-print, [arXiv:1707.01159](#)

## Deep Learning for Understanding Faces

Rajeev Ranjan, Swami Sankaranarayanan, *Ankan Bansal*, Navaneeth Bodla, Jun-Cheng Chen, Vishal M. Patel, Carlos D. Castillo, Rama Chellappa

IEEE Signal Processing Magazine, 2017, [link](#)

## The Do's and Don'ts for CNN-based Face Verification

*Ankan Bansal*, Carlos Castillo, Rajeev Ranjan, Rama Chellappa

International Conference on Computer Vision (ICCV) Workshops, 2017, [arXiv:1705.07426](#)

## UMDFaces: An Annotated Face Dataset for Training Deep Networks

*Ankan Bansal*, Anirudh Nanduri, Carlos Castillo, Rajeev Ranjan, Rama Chellappa

International Joint Conference on Biometrics (IJCB), 2017, [arXiv:1611.01484](#)

## People Counting in High Density Crowds from Still Images

*Ankan Bansal*, K. S. Venkatesh

International Journal of Computer and Electrical Engineering, 2015 Vol. 7(5), [arXiv:1507.08445](#)

## INTERNSHIPS

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### Salesforce Einstein AI, Palo Alto, USA

*September 2019 - November 2019*

**Advisors:** Nikhil Naik, Richard Socher

**Topic:** Grounding Visual Concepts

### Amazon AWS AI, Pasadena, USA

*May 2019 - August 2019*

**Advisors:** Yuting Zhang, Vijay Mahadevan, Stefano Soatto

**Topic:** Visual Question Answering

### Amazon AWS Deep Learning, Seattle, USA

*May 2018 - August 2018*

**Advisors:** Joaquin Zepeda, Avinash Ravichandran, Stefano Soatto

**Topic:** Semi-supervised learning

### SRI International, Princeton, USA

*May 2017 - August 2017*

**Advisor:** Ajay Divakaran

**Topic:** Zero-shot Object Detection

## HONORS AND AWARDS

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- Clark School of Engineering Distinguished Graduate Fellowship, University of Maryland, 2015-2016
- MCM Scholarship, IIT Kanpur, 2010-2014
- National Talent Search Examination (NTSE) scholarship by Government of India, 2008-2010
- Science Student Award by State Government of Uttar Pradesh, 2008

## MASTERS THESIS

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**Duration:** May 2014 - June 2015

**Topic:** Estimating Number of People in Very High Density Crowds

**Supervisor:** K. S. Venkatesh

## TEACHING EXPERIENCE

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I have been a Teaching Assistant for the following courses:

Control Systems Laboratory (IIT Kanpur, Fall 2014), Convex Optimization (IIT Kanpur, Spring 2015)

## RELEVANT COURSES

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### University of Maryland, College Park

Computer Vision, Deep Learning, Statistical Pattern Classification, Robotics and Perception, Image Understanding, Random Processes, Estimation and Detection Theory, Information Theory

### Indian Institute of Technology, Kanpur

Convex Optimization, Artificial Intelligence Planning, Statistical Signal Processing, Kalman Filtering

## SKILLS

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**Programming Languages and Libraries:** Python, PyTorch, Tensorflow, Caffe

**Human Languages:** Hindi (native), English, Spanish (beginner), Russian (beginner)

## POSITIONS OF RESPONSIBILITY

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**Coordinator, Quiz Events,** Antaragni 2012 (inter-collegiate cultural festival of IIT Kanpur)

**Coordinator, Crypto,** Techkriti 2012 (inter-collegiate technical festival of IIT Kanpur)

**Student Guide and Link Student,** Counselling Service, IIT Kanpur, 2011-2012

## OTHER INTERESTS

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I [read](#). I [write](#). I [quiz](#). And I am teaching myself to play the violin.