

College of Information and Computer Sciences  
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## Education

- PhD in Computer Science** 2006-2011  
University of California at Berkeley  
Thesis: *Algorithms and Representations for Visual Recognition*  
Committee: Trevor Darrell, Bruno Olshausen, Jitendra Malik (chair)  
Designated emphasis in *Communication, Computation, and Statistics*
- Bachelor of Technology** 2002-2006  
Computer Science and Engineering Department  
Indian Institute of Technology, Kanpur  
*CSE Department Topper*

## Employment and academic positions

- Assistant Professor** Sept 2014-current  
College of Information and Computer Sciences  
University of Massachusetts, Amherst
- Amazon AI Scholar** Sept 2018 - current  
Amazon Web Services (*part time*)
- Consultant** 2016-2017  
Google Research, Cambridge (*part time*)
- Research Assistant Professor** Jan 2012 - Aug 2014  
Toyota Technological Institute at Chicago
- Visiting Researcher** Oct - Nov 2013  
University of Oxford, Oxford, UK  
Hosts: Prof. Andrew Zisserman and Prof. Andrea Vedaldi
- Senior Member** June - Aug 2012  
Center of Language and Speech Processing, Johns Hopkins University
- Graduate Student Researcher** Sept 2006 - Dec 2011  
University of California at Berkeley
- Graduate Intern** May - July 2008  
Google, Mountain View, CA (Host: Chuck Rosenberg)
- Visiting Researcher** May - June 2010  
Microsoft Research, India
- Undergraduate Intern** May - July 2005  
LEAR group at INRIA, Grenoble, France (Host: Cordelia Schmidt)

## Awards and fellowships

**National Science Foundation CAREER Award**, 2018

**Best paper honorable mention**, CVPR 2018 (SPLATNet)

**Outstanding reviewer**, BMVC 2017, ECCV 2016, CVPR 2015, CVPR 2014

**Best poster runner-up**, Scene Understanding Workshop (SUNw), CVPR 2015

**Best paper award**, WACV 2015

**Best poster runner-up**, Fine-Grained Visual Recognition Workshop, CVPR

**Google Graduate Fellowship**, 2009-2010

**Honorable mention**, PASCAL VOC Segmentation Challenge 2010

**PAMI-TC student travel grant**, ICCV 2009

**Best Paper Award**, International Conference on Information Fusion (ICIF)

**General Proficiency Medal** for graduating with the highest GPA in CSE Department, IIT Kanpur, 2006

**Pratibha scholarship**, Andhra Pradesh Govt., India, 2002-2006

**Rajaraman scholarship for academic proficiency**, IIT Kanpur, 2005

**Academic excellence award**, IIT Kanpur, 2002, 2003, 2004

## Funding

- 3D Shape Understanding and Generation using Unstructured Point Clouds** Sept 2019 - Aug 2022  
National Science Foundation #1908669  
Award: **\$499,894** (PIs: Rui Wang, Subhransu Maji)
- CDS&E: Machine Learning for Star Cluster Classification** Nov 2018 - Oct 2020  
National Science Foundation #1815267  
Award: **\$251,741** (PIs: Daniela Calzetti, Subhransu Maji)
- CAREER: Towards Perceptual Agents That See and Reason Like Humans** June 2018 - May 2023  
National Science Foundation #1749833  
Award: **\$545,586** (PI: Subhransu Maji)
- ABI Innovation: Dark Ecology: Deep Learning and Massive Gaussian Processes to Uncover Biological Signals in Weather Radar** May 2017 - April 2020  
National Science Foundation, #1661259  
Amount: \$1,212,645, UMass portion: **\$903,339** (PIs: Dan Sheldon, Subhransu Maji)
- Rich Language-Based Understanding of Textures for Recognition & Synthesis** Sept 2016 - Aug 2020  
National Science Foundation #1617917  
Award: **\$450,000** (PI: Subhransu Maji)
- Faculty awards**, Adobe Research. Amount: **\$40,000** 2018 - 2019
- Faculty award**, Facebook AI Research. Amount: **\$50,000** 2016
- NVIDIA Academic Hardware Donation Program**. Amount: **\$5,000** 2013, 2015

## Professional activities

### Tutorials and workshops co-organizing

- *Workshop* on “Fine Grained Visual Classification (FGVC<sup>3</sup>-FGVC<sup>6</sup>)”, CVPR 2015-2018
- Co-founder and co-organizer of the “New England Vision Meeting”, 2015 (75+ attendees from various universities in the New England area: <http://people.cs.umass.edu/~smaji/nevm2015>)
- *Workshop* on “Computer Vision and Human Computation”, CVPR 2014
- *Workshop* at the CLSP center, Johns Hopkins university, *Towards a Detailed Understanding of Objects and Scenes in Natural Images*, June - August, 2012 (with Andrea Vedaldi, Esa Rahtu, Matthew Blaschko, Iasonas Kokkinos, and Ben Taskar)
- *Tutorial* on “Computational Visual Recognition” at ICVGIP 2012, IIT Bombay
- *Tutorial* on “Additive Kernels and Explicit Embeddings for Large-Scale Computer Vision Problems”, ECCV 2012, Florence, Italy

### Reviewing and program committees

- **Area chair**, IEEE Computer Vision and Pattern Recognition (CVPR), 2016, 2018, 2019, 2020
- **Associate editor**, International Journal for Computer Vision (IJCV), 2019-
- **Panelist**, National Science Foundation, 2016 (2×), 2017, 2019
- **Senior Program Committee**, International Joint Conference on Artificial Intelligence (IJCAI), 2019
- **Area chair**, International Conference on Computer Vision, Graphics and Image Processing, 2014, 2016, 2018
- **Tutorial chair**, International Conference on Computer Vision, Graphics and Image Processing, 2016
- **Reviewer** for the following conferences:
  - IEEE Conference on Computer Vision and Pattern Recognition (CVPR) 2009 – 2017
  - European Conference on Computer Vision (ECCV) 2010 – 2019
  - International Conference on Computer Vision (ICCV) 2009 – 2019
  - Conference on Neural Information Processing Systems (NIPS) 2010 – 2017 (several years)
  - Association for the Advancement of Artificial Intelligence (AAAI) 2012
  - International Conference on Machine Learning (ICML) 2012, 2013
  - Asian Conference on Computer Vision (ACCV) 2018
- **Reviewer** for the following journals: IEEE Transactions on Pattern Analysis and Machine Intelligence (PAMI), International Journal of Computer Vision (IJCV), Computer Vision and Image Understanding (CVIU), and IEEE Transactions on Image Processing (IP)
- I have also been in the **program committee member** for various workshops organized at conferences including ECCV, CVPR and ICCV.

## Publications

My papers have been cited 7706 times (h-index 32, i10-index 46) according to Google scholar as of August 2019. Google scholar page: <https://scholar.google.com/citations?user=l7Qx0zAAAAAJ&hl=en>

## Journals

1. **MistNet: Measuring historical bird migration in the US using archived weather radar data and convolutional neural networks**, *Tsung-Yu Lin, Kevin Winner, Garrett Bernstein, Abhay Mittal, Adriaan M. Dokter, Kyle G. Horton, Cecilia Nilsson, Benjamin M. Van Doren, Andrew Farnsworth, Frank A. La Sorte, Subhransu Maji, and Daniel Sheldon*, *Methods in Ecology and Evolution*, 2019
2. **High Dimensional Inference with Random Maximum A-Posteriori Perturbations**, *Tamir Hazan, Francesco Orabona, Anand D. Sarwate, Subhransu Maji, Tommi Jaakkola*, *IEEE Transactions on Information Theory* 65: to appear 2019.
3. **Bilinear CNNs for Fine-grained Visual Recognition** *Tsung-Yu Lin, Aruni RoyChowdhury, Subhransu Maji*, *IEEE Transactions of Pattern Analysis and Machine Intelligence*, Volume:40, Issue:6, June 2018
4. **Deep Filter Banks for Texture Recognition, Description, and Segmentation**, *Mircea Cimpoi, Subhransu Maji, Iasonas Kokkinos, Andrea Vedaldi*, *International Journal of Computer Vision*, Volume 118, Issue 1, pp 65-94, May 2016
5. **Part and Attribute Discovery from Relative Annotations**, *Subhransu Maji, Gregory Shakhnarovich*, *International Journal of Computer Vision*, May 2014, Volume 108, Issue 1-2, pp 82-96
6. **Efficient Classification for Additive Kernel SVMs** *Subhransu Maji, Alexander C. Berg, Jitendra Malik*, *IEEE Transactions of Pattern Analysis and Machine Intelligence (PAMI)*, Volume 35 Issue 1, Jan 2013
7. **Poselets: A Distributed Representation for Visual Recognition** *Lubomir Bourdev, Subhransu Maji, Jitendra Malik*, *Journal of Vision*, September, 23, 2011, vol. 11 no. 11 article 891

## Refereed conferences

1. **Task2Vec: Task Embedding for Meta-Learning**, *Alessandro Achille, Michael Lam, Rahul Tewari, Avinash Ravichandran, Subhransu Maji, Charless Fowlkes, Stefano Soatto, Pietro Perona*, *International Conference on Computer Vision (ICCV)*, 2019
2. **Shape Reconstruction using Differentiable Projections and Deep Priors**, *Matheus Gadelha, Rui Wang, Subhransu Maji*, *International Conference on Computer Vision (ICCV)*, 2019
3. **Learning Point Embeddings from Shape Repositories for Few-Shot Segmentation**, *Gopal Sharma, Evangelos Kalogerakis, Subhransu Maji*, *International Conference on 3D Vision (3DV)*, 2019
4. **W!NCE: Unobtrusive Sensing of Upper Facial Action Units with EOG-based Eyewear**, *Soha Rostaminia, Alexander Lamson, Subhransu Maji, Tauhidur Rahman, Deepak Ganesan*, *Proceedings of the ACM on Interactive, Mobile, Wearable and Ubiquitous Technologies (UBICOMP)*, 2019  
*Publication date: September 9, 2019 (to appear) (Acceptance rate 20-25%, 26 pages)*
5. **DeepRoof: A Data-driven Approach For Solar Potential Estimation Using Rooftop Imagery**, *Stephen Lee, Srinivasan Iyengar, Menghong Feng, Prashant Shenoy, Subhransu Maji*, *SIGKDD Conference on*

- Knowledge Discovery and Data Mining (KDD), 2019, **oral presentation**  
*Publication date: August 3, 2019 (to appear), (Acceptance rate 14.2%, 10 pages)*
6. **A Bayesian Perspective on the Deep Image Prior**, Zezhou Cheng, Matheus Gadelha, Subhransu Maji, Daniel Sheldon, Computer Vision and Pattern Recognition (CVPR), 2019  
*Publication date: June 16, 2019 (Acceptance rate 25.2%, 10 pages)*
  7. **Meta-Learning with Differentiable Convex Optimization**, Kwonjoon Lee, Subhransu Maji, Avinash Ravichandran, Stefano Soatto, Computer Vision and Pattern Recognition (CVPR), 2019, **oral presentation**  
*Publication date: June 16, 2019 (Acceptance rate 25.2%, Oral rate: 5.6%, 10 pages)*
  8. **Random Feature Maps for the Itemset Kernel**, Kyohei Atarashi, Subhransu Maji, Satoshi Oyama, Association for the Advancement of Artificial Intelligence (AAAI), 2019  
*Publication date: January 27, 2019 (Acceptance rate 16.2%, 10 pages)*
  9. **Multiresolution Tree Networks for 3D Point Cloud Processing**, Matheus Gadelha, Rui Wang, Subhransu Maji, European Conference on Computer Vision (ECCV), 2018  
*Publication date: September 8, 2018 (Acceptance rate: 31.8%, 16 pages).*
  10. **Second-order Democratic Aggregation**, Tsung-Yu Lin, Subhransu Maji, Piotr Koniusz, European Conference on Computer Vision (ECCV), 2018  
*Publication date: September 8, 2018 (Acceptance rate: 31.8%, 16 pages).*
  11. **VisemeNet: Audio-Driven Animator-Centric Speech Animation**, Yang Zhou, Zhan Xu, Chris Landreth, Evangelos Kalogerakis, Subhransu Maji, Karan Singh, ACM Transactions on Graphics (also to be presented at SIGGRAPH 2018)  
*Publication date: August 12, 2018 (Acceptance rate 21%, 10 pages)*
  12. **CSGNet: Neural Shape Parser for Constructive Solid Geometry**, Gopal Sharma, Rishabh Goyal, Difan Liu, Evangelos Kalogerakis, Subhransu Maji, Computer Vision and Pattern Recognition (CVPR), 2018  
*Publication date: June 18, 2018 (Acceptance rate 29%, 10 pages)*
  13. **SPLATNet: Sparse Lattice Networks for Point Cloud Processing**, Hang Su, Varun Jampani, Deqing Sun, Subhransu Maji, Evangelos Kalogerakis, Ming-Hsuan Yang, Jan Kautz, Computer Vision and Pattern Recognition (CVPR), 2018, oral presentation, **best paper honorable mention**  
*Publication date: June 18, 2018 (Acceptance rate 29%, 10 pages)*
  14. **Reasoning about Fine-grained Attribute Phrases using Reference Games**, Jong-Chyi Su\*, Chenyun Wu\*, Huaizu Jiang, Subhransu Maji, International Conference on Computer Vision (ICCV), 2017  
*Publication date: October 22, 2017 (Acceptance rate 29%, 10 pages)*
  15. **3D Shape Reconstruction from Sketches via Multi-view Convolutional Networks**, Zhaoliang Lun, Matheus Gadelha, Evangelos Kalogerakis, Subhransu Maji, Rui Wang, International Conference on 3D Vision (3DV), 2017, **oral presentation**
  16. **3D Shape Induction from 2D Views of Multiple Objects**, Matheus Gadelha, Subhransu Maji, Rui Wang, International Conference on 3D Vision (3DV), 2017
  17. **3D Shape Generation using Spatially Ordered Point Clouds**, Matheus Gadhela, Subhransu Maji, Rui Wang, British Machine Vision Conference (BMVC), 2017

18. **Improved Bilinear Pooling with CNNs**, *Tsung Yu Lin, Subhransu Maji*, British Machine Vision Conference (BMVC), 2017, oral presentation  
*Publication date: September 4, 2017 (Acceptance rate 29.6%, oral rate 10%)*
19. **Adapting Models to Signal Degradation using Distillation**, *Jong-Chyi Su, Subhransu Maji*, British Machine Vision Conference (BMVC), 2017  
*Publication date: September 4, 2017 (Acceptance rate 29.6%)*
20. **3D Shape Segmentation with Projective Convolutional Networks**, *Evangelos Kalogerakis, Melinos Averkiou, Subhransu Maji, Siddharth Chaudhuri*, Computer Vision and Pattern Recognition (CVPR), 2017, **oral presentation**  
*Publication date: July 21, 2017 (Acceptance rate 29%, oral rate 2.65%)*
21. **Texture Attribute Synthesis and Transfer using Feed-forward CNNs**, *Thomas Irmer, Tobias Glasmachers, Subhransu Maji*, IEEE Winter Conference on Applications of Computer Vision (WACV), 2017  
*Publication date: March 27, 2017 (Acceptance rate 45%)*
22. **Visualizing and Understanding Deep Texture Representations**, *Tsung-Yu Lin, Subhransu Maji*, IEEE Conference on Computer Vision (CVPR) 2016, Las Vegas, USA  
*Publication date: June 26, 2016 (Acceptance rate 29.9%)*
23. **One-to-many Face Recognition with Bilinear CNNs**, *Aruni RoyChowdhury, Tsung-Yu Lin, Subhransu Maji, Erik Learned-Miller*, Winter Conference on Applications of Computer Vision (WACV) 2016, Lake Placid, USA  
*Publication date: March 7, 2016 (Acceptance rate 34%)*
24. **Bilinear CNN Models For Fine-grained Visual Recognition**, *Tsung-Yu Lin, Aruni RoyChowdhury, Subhransu Maji*, International Conference on Computer Vision (ICCV) 2015, Santiago, Chile (oral presentation)  
*Publication date: December 13, 2015 (Acceptance rate 30.3%; Oral 3.3%)*
25. **Multi-view CNNs for 3D Shape Recognition**, *Hang Su, Subhransu Maji, Evangelos Kalogerakis, Erik Learned-Miller* International Conference on Computer Vision (ICCV) 2015, Santiago, Chile  
*Publication date: December 13, 2015 (Acceptance rate 30.3%)*
26. **Deep Filter Banks for Texture Recognition and Segmentation** *Mircea Cimpoi, Subhransu Maji, Andrea Vedaldi* IEEE Conference on Computer Vision (CVPR) 2015, Boston, **oral presentation**  
*Publication date: June 8, 2015 (Acceptance rate 28.4%; Oral 3.3%)*
27. **Learning Localized Perceptual Similarities for Interactive Categorization** *Catherine Wah, Subhransu Maji, Serge Belongie*, Winter Conference on Applications of Computer Vision (WACV) 2015, Waikoloa Beach, US, **best paper award**  
*Publication date: January 6, 2015 (Acceptance rate 36.7%)*
28. **Knowing a Good HOG Filter when You See it: Efficient Selection of Filters for Detection**, *Ejaz Ahmed, Gregory Shakhnarovich, Subhransu Maji*, European Conference on Computer Vision (ECCV) 2014, Zurich, Switzerland, **oral presentation**  
*Publication date: September 6, 2014 (Acceptance rate 26.7%; Oral 2.8%)*
29. **Parsing World's Skylines with Shape Constrained MRFs**, *Rashmi V. Tonge, Subhransu Maji, C.V. Jawahar*, IEEE Conference on Computer Vision (CVPR) 2014, Columbus, Ohio, USA
30. **Similarity Comparisons for Interactive Fine-Grained Categorization**, *Catherine Wah, Grant Van Horn, Steven Branson, Subhransu Maji, Pietro Perona, Serge Belongie*, IEEE Conference on Computer Vision

(CVPR) 2014, Columbus, Ohio, USA

31. **Understanding Objects in Detail with Fine-grained Attributes**, *A. Vedaldi, S. Mahendran, S. Tsogkas, S. Maji, B. Girshick, J. Kannala, E. Rahtu, I. Kokkinos, M. B. Blaschko, D. Weiss, B. Taskar, K. Simonyan, N. Saphra, S. Mohamed*, IEEE Conference on Computer Vision (CVPR) 2014, Columbus, Ohio, USA
32. **Describing Textures in the Wild**, *Mircea Cimpoi, Subhransu Maji, Iasonas Kokkinos, Sammy Mohamed, Andrea Vedaldi*, IEEE Conference on Computer Vision (CVPR) 2014, Columbus, Ohio, USA
33. **Active Boundary Annotation using Random MAP Perturbations** *Subhransu Maji, Tamir Hazan, Tommi Jaakkola*, AISTATS 2014, Reykjavik, Iceland
34. **Learning Efficient Random MAP Predictors with Non-Decomposable Loss Functions**, *Tamir Hazan, Subhransu Maji, Joseph Keshet, Tommi Jaakkola*, Neural Information Processing Systems (NIPS) 2013, Lake Tahoe, USA
35. **On Sampling from the Gibbs Distribution with Random MAP Perturbations** *Tamir Hazan, Subhransu Maji, Tommi Jaakkola*, Neural Information Processing Systems (NIPS) 2013, Lake Tahoe, USA
36. **Part Discovery from Partial Correspondence**, *Subhransu Maji, Gregory Shakhnarovich*, IEEE Conference on Computer Vision (CVPR) 2013, Portland, USA
37. **Describing People: A Poselet-Based Approach to Attribute Classification**, *Lubomir Bourdev, Subhransu Maji, Jitendra Malik*, International Conference on Computer Vision (ICCV) 2011, Barcelona, Spain, **oral presentation**
38. **Semantic Contours from Inverse Detectors**, *Bharath Hariharan, Pablo Arbelaez, Lubomir Bourdev, Subhransu Maji, Jitendra Malik*, International Conference on Computer Vision (ICCV) 2011, Barcelona, Spain
39. **Action Recognition from a Distributed Representation of Pose and Appearance** *Subhransu Maji, Lubomir Bourdev, Jitendra Malik*, IEEE Conference on Computer Vision (CVPR) 2011, Colorado Springs, USA
40. **Biased Normalized Cuts**, *Subhransu Maji, Nisheeth Vishnoi, Jitendra Malik*, IEEE Conference on Computer Vision (CVPR) 2011, Colorado Springs, USA
41. **Object Segmentation by Alignment of Poselet Activations to Image Contours**, *Thomas Brox, Lubomir Bourdev, Subhransu Maji, Jitendra Malik*, IEEE Conference on Computer Vision (CVPR) 2011, Colorado Springs, USA
42. **Detecting People Using Mutually Consistent Poselet Activations**, *Lubomir Bourdev, Subhransu Maji, Thomas Brox, Jitendra Malik*, European Conference on Computer Vision (ECCV) 2010, Crete, Greece
43. **Max-Margin Additive Classifiers for Detection**, *Subhransu Maji, Alexander Berg*, International Conference on Computer Vision (ICCV) 2009, Kyoto, Japan, **oral presentation**
44. **Object Detection Using a Max-Margin Hough Transform**, *Subhransu Maji, Jitendra Malik*, IEEE Conference on Computer Vision (CVPR) 2009, Miami, USA, **oral presentation**
45. **Multiple-View Object Recognition in Band-Limited Distributed Camera Networks**, *Allen Y. Yang, Subhransu Maji, C. M. Christoudias, Trevor Darrell, Jitendra Malik and S. S. Sastry*, ICSDC 2009, Komo, Italy, **oral presentation**

46. **Distributed Compression and Fusion of Nonnegative Sparse Signals for Multiple-View Object Recognition**, *Allen Y. Yang, Subhransu Maji, K. Hong, P. Yan, Shankar S. Sastry*, International Conference on Information Fusion (ICIF) 2009, Seattle, USA, **best paper award**
47. **Classification using Intersection Kernel SVMs is Efficient**, *Subhransu Maji, Alexander C. Berg and Jitendra Malik*, IEEE Conference on Computer Vision (CVPR) 2008, Anchorage, USA
48. **Confidence Based updation of Motion Conspicuity in Dynamic Scenes**, *Vivek Kumar Singh, Subhransu Maji, Amitabha Mukerjee*, Computer and Robot Vision (CRV) 2006, Québec City, Canada

## Workshops

1. **Visualizing and Describing Fine-grained Categories as Textures**, *Tsung-Yu Lin, Mikayla Timm, Chenyun Wu, Subhransu Maji*, The Sixth Fine-Grained Visual Categorization Workshop (FGVC6) at CVPR 19
2. **Jointly Learning Multiple Perceptual Similarities**, *Liwen Zhang, Subhransu Maji, and Ryota Tomioka*, Multi-View Representation Learning Workshop (MVRL) at ICML, 2016
3. **Distinguishing Weather Phenomena from Bird Migration Patterns in Radar Imagery**, *Aruni Roy-Chowdhury, Daniel Sheldon, Subhransu Maji, Erik Learned-Miller*, IEEE Worksop on Perception Beyond the Visual Spectrum (PBVS), 2016
4. **Visualizing Deep Texture Representations** *Tsung-Yu Lin, Subhransu Maji*, Workshop on Visualization for Deep Learning at ICML, 2016
5. **Learning Localized Perceptual Similarity Metrics for Interactive Categorization**, *Catherine Wah, Subhransu Maji, and Serge Belongie*, Human-Machine Communication for Visual Recognition and Search, ECCV 2014
6. **Using Human Knowledge to Judge Part Goodness: Interactive Part Selection** *Ejaz Ahmed, Subhransu Maji, Gregory Shakhnarovich, Larry Davis*, Workshop on Computer Vision and Human Computation, CVPR 2014
7. **Discovering a Lexicon of Parts and Attributes**, *Subhransu Maji*, Second International Workshop on Parts and Attributes, ECCV 2012, **oral presentation**, *Best poster runner-up at Fine-Grained Visual Recognition Workshop*, 2013
8. **Linearized Smooth Additive Classifiers**, *Subhransu Maji*, Workshop on Web-scale Vision and Social Media, ECCV 2012, **oral presentation**
9. **Part Annotations via Pairwise Correspondence**, *Subhransu Maji and Gregory Shakhnarovich*, 4th Workshop on Human Computation, AAAI 2012, **oral presentation**
10. **Fast Unsupervised Alignment of Video and Text for Indexing Names and Faces**, *Subhransu Maji and Ruzena Bajscy*, Multimedia Semantics Workshop, ACM Multimedia 2007, Augsburg, Germany



## Technical reports and preprints (non peer-reviewed)

1. **Fine-Grained Visual Classification of Aircraft**, *Subhransu Maji, Esa Rahtu, Juho Kannala, Matthew Blaschko and Andrea Vedaldi*, arXiv:1306.5151, Jun 2013
2. **Large Scale Image Annotations on Amazon Mechanical Turk** *Subhransu Maji*, EECS Department, UCB, Tech. Rep. UCB/EECS-2011-79, July 2011
3. **Fast and Accurate Digit Classification**, *Subhransu Maji, Jitendra Malik*, EECS Department, UCB, Tech. Rep. UCB/EECS-2009-159, Nov. 2009

## Book chapters

1. **A Taxonomy of Part and Attribute Discovery Techniques**, *Subhransu Maji*, Visual Attributes, Springer, 2016, D. Parikh, R. Feris, C. Lampert, Eds.
2. **Perturbation Models and PAC-Bayesian Generalization Bounds** *J. Keshet, S. Maji, T. Hazan, T. Jaakkola*, Perturbations, Optimization, and Statistics, MIT Press, 2016, T. Hazan, G. Papandreou, and D. Tarlow, Eds.
3. **Multiple-view Object Recognition in Smart Camera Networks**, *Allen Y. Yang, Subhransu Maji, M. C. Christoudias, Trevor Darrell, Jitendra Malik, Shankar S. Sastry*, Distributed Video Sensor Networks, Springer, 2010

## Student supervision

### Advisees

- Gustavo Perez, PhD student, UMass Amherst (*current*)
- Matheus Gadelha, PhD student, UMass Amherst (*current*, w/ Rui Wang)
- Zezhou Cheng, PhD student, UMass Amherst (*current*, w/ Dan Sheldon)
- Chenyun Wu, PhD student, UMass Amherst (*current*)
- Mikayla Timm, PhD student, UMass Amherst (*current*)
- JongChyi Su, PhD student, UMass Amherst (*current*)
- TsungYu Lin, PhD student, UMass Amherst (*current*)
- Gopal Sharma, PhD student, UMass Amherst (*current*, w/ Evangelos Kalogerakis)

### PhD Thesis Committees

- Hang Su, PhD student, UMass Amherst (*current*)
- Huaizu Jiang, PhD student, UMass Amherst (*current*)
- Aruni RoyChowdhury, PhD student, UMass Amherst (*current*)

- Pia Bideau, PhD student, UMass Amherst (*current*)
- Souyoung Jin, PhD student, UMass Amherst (*current*)
- Venkatesh N. Murthy, PhD student, UMass Amherst, 2019
- Tao Sun, PhD student, UMass Amherst, 2018
- Zhaoliang Lun, PhD student, UMass Amherst, 2017
- Arvind R Neelakantan, PhD student, UMass Amherst, 2017
- David Belanger, PhD student, UMass Amherst, 2017
- Steven Cheng-Xian Li, PhD student, UMass Amherst, 2016

### **Interns and student collaborators**

- Samantha Cote, Undergraduate student, UMass Amherst, *honors project*, 2019
- Tongyi Cao, PhD student, UMass Amherst, *synthesis project*, 2019
- Kwonjoon Lee, PhD student, UCSD, *summer intern*, 2018
- Yang Zhou, PhD student, UMass Amherst, *synthesis project*, 2018
- Emma Strubell, PhD student, UMass Amherst, *synthesis project*, 2016
- Thomas Irmer (MS student at Ruhr-Universität Bochum, co-advised with Tobias Glasmachers)
- Brayden Neal, undergraduate student (REU program), UPenn, Summer 2016 (*current*)
- Liwen Zhang, PhD student at University of Chicago (Co-supervised with Ryota Tomioka) (*current*)
- Mikayla Trimm, undergraduate student (REU program), UCF, Summer 2015
- Kundan Kumar, undergraduate student, IIT Kanpur, Summer 2015
- Mircea Cimpoi, PhD student at Oxford University (Co-supervised w/ Andrea Vedaldi), 2013-2015
- Ejaz Ahmed, PhD student at UMD (Intern w/ Greg Shakhnarovich), summer 2014
- Catherine Wah, PhD student at UCSD, Intern, Feb - April '13, Jan - April '14
- Rashmi Tonge, MS student at IIIT Hyderabad (Thesis co-supervisor w/ C.V. Jawahar), 2013 - 2014

### **Teaching**

- Instructor, CMPSCI 370: Intro. to Computer Vision, UMass Amherst, Spring 2018 (53 students)
- Instructor, CMPSCI 670: Computer Vision, UMass Amherst, Fall 2018 (61 students)
- Instructor, CMPSCI 370: Intro. to Computer Vision, UMass Amherst, Spring 2018 (51 students)
- Instructor, CMPSCI 670: Computer Vision, UMass Amherst, Fall 2017 (66 students)
- Instructor, CMPSCI 370: Intro. to Computer Vision, UMass Amherst, Spring 2017 (40 students)
- Instructor, CMPSCI 670: Computer Vision, UMass Amherst, Fall 2016 (39 students)
- Instructor, CMPSCI 370: Intro. to Computer Vision, UMass Amherst, Spring 2016 (33 students)

- Instructor, CMPSCI 370HH: Honors section for 370, UMass Amherst, Spring 2016 (4 students)
- Instructor, CMPSCI 689: Machine Learning, UMass Amherst, Spring 2015 (39 students)
- Instructor, CMPSCI 670: Computer Vision, UMass Amherst, Fall 2014 (25 students)
- Guest lecturer, Visual Recognition , TTI Chicago, Winter 2012
- Guest lecturer, CS 294: Visual Search Engines, UC Berkeley, Fall 2010
- Guest lecturer, CS 280: Computer Vision, UC Berkeley, Spring 2010
- GSI for CS 162, Operating Systems and Systems Programming, UC Berkeley, Fall 2006
- Organized and taught 'Data Structures and Algorithms', IIT Kanpur, Summer 2006

### **Invited talks, presentations, etc.**

- Task Embedding for Model Recommendation, CVPR AC Workshop, USCD (March 2019)
- Task Embedding for Model Recommendation, ICERM, Brown University (Feb 2019)
- Adversarial attacks against ML systems, Security Seminar, UMass Amherst (Fall 18)
- Learning to generate 3D shapes, Caltech (August 2018)
- Improved bilinear CNNs via the Matrix Square-Root and its Gradient, Manifold Learning Workshop, ICCV 2017.
- Factorized architectures for fine-grained recognition, Amazon AWS AI (Sept 2017)
- Cross quality distillation (or "How to see Blurry pictures better"), Google Research, *Cambridge, MA* (June 2016)
- Invited talk, CVPR16 Area Chair Workshop, *Vancouver* (Feb 2016)
- Bilinear CNN models for fine-grained visual recognition
  - Department Colloquium, *University of Rochester* (April 2017)
  - Department Colloquium, *Rochester Polytechnic Institute* (April 2017)
  - Department Colloquium, *Worcester Polytechnic Institute* (Sept 2016)
  - Computer vision seminar, *Boston University* (March 2016)
  - Computer vision seminar, *University of Washington* (Oct 2015)
  - Microsoft Research, *Seattle* (Oct 2015)
  - Computer vision seminar, *UC Berkeley* (Sept 2015)
  - Google research, *Mountain view* (Sept 2015)
  - Computer vision seminar, *MIT* (May 2015)
- Invited talk, ImageNet workshop at ICCV15, *Santiago* (Dec 2015)
- The world of computer vision, Science Quest, *UMass Amherst* (Oct 2015)

- But what is it made of? (“Learning to recognize materials”), Faculty seminar, UMass Amherst (Dec 2014)
- Rich semantic representations for detailed visual recognition
  - Invited talk, *Toyota Technological Institute at Chicago* (April 2014)
  - Invited talk, *University of Minnesota, Twin-Cities* (March 2014)
  - Invited talk, *Imperial College London* (March 2014)
  - Invited talk, *Microsoft research, Cambridge, UK* (March 2014)
  - Invited talk, *Adobe Research, San Francisco* (March 2014)
  - Invited talk, *University of North Carolina, Chapel Hill* (March 2013)
  - Invited talk, *University of Southern California* (March 2013)
  - Invited talk, *University of Maryland, College Park* (March 2013)
  - Invited talk, *University of California, Berkeley* (March 2013)
  - Invited talk, *University of Massachusetts, Amherst* (Feb 2014)
- Discovering the structure of visual categories
  - Robotics seminar, *Oxford University* (Sept 2013)
  - Invited talk, *Microsoft research, Cambridge, UK* (Sept 2013)
  - Machine learning and friends seminar, *UMass, Amherst* (Oct 2013)
  - Invited talk, *Kyoto university* (May 2013)
  - Faculty research seminar, *Toyota Technological Institute, Chicago* (2013)
- Discovering a lexicon of parts and attributes
  - CLSP Summer Workshop, *Johns Hopkins University* (2012)
  - Midwest vision workshop, *UIUC* (2012)
  - Keynote talk, Workshop on Parts and Attributes, *ECCV Florence* (2012)
  - Computer vision seminar, *Caltech* (2012)
- Linearized Smooth Additive Classifiers, Workshop on Web-scale Vision and Social Media, *ECCV, Florence* (2012)
- Fast and accurate object and action detection
  - Computer vision seminar, *MIT* (2011)
  - Robotics institute seminar, *CMU* (2011)
  - Invited talk, Google research, *Mountain view* (2011)
  - Vision workshop, *Mysore park* (2011)
- Large-scale image annotations using Amazon mechanical turk
  - Intel research, *Berkeley* (2011)
  - RAD LAB seminar, *Berkeley* (2011)
  - Machine learning tea, *Berkeley* (2011)