

# Abhishek Kar

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## EDUCATION

### University of California, Berkeley

Aug 2012 – Dec 2017

- **Ph.D. in Computer Science**
  - Thesis: Learning to Reconstruct 3D Objects
  - Advisor: Prof. Jitendra Malik
  - Cumulative GPA: 3.98 / 4.00

### Indian Institute of Technology, Kanpur

Jul 2008 – May 2012

- **B.Tech in Computer Science**
  - Cumulative GPA: 9.9 / 10.0 (Institute Rank 2 in class of 600)
  - Academic Excellence Award (Dean's List) 2009, 2010, 2011
  - Thesis: Chemistry Studio - An Intelligent Tutoring System
  - Advisors: Dr. Sumit Gulwani (MSR Redmond), Prof. Amey Karkare (IIT Kanpur)
  - IIT-JEE Rank 43 (amongst 400,000 students)

## RESEARCH EXPERIENCE

### Fyusion Inc., San Francisco, CA

Nov 2017 – Present

- **Director of Machine Learning**
  - Leading Machine Learning research and development at Fyusion Inc.

### Berkeley Artificial Intelligence Research (BAIR), UC Berkeley

Aug 2012 – Dec 2017

- **Graduate Student Researcher**
  - Working on inferring 3D shapes and properties of objects and scenes from image collections.
  - Investigating techniques for integrating machine learning / deep learning algorithms with 3D geometry for shape inference.

### Fyusion Inc., San Francisco, CA

Jun 2015 – Dec 2016

- **Visiting Research Scientist**
  - Developed machine learning models for visual content discovery and search via "fyuses" (3D images).
  - Developed deep learning models for AR/VR content creation from fyuses and real-time artistic style transfer.
  - 7 patents pending based on the work.

### Adobe Creative Technologies Lab (CTL), San Francisco, CA

Jun 2014 – Aug 2014

- **Research Intern**
  - Developed algorithms for completion of partial depth scans from consumer range cameras.

### Microsoft Research, Redmond, WA

May 2011 – Jul 2011

- **Research Intern**
  - Worked on a novel method to view large imagery on mobile devices.
  - Worked on improving face tracking on mobile devices and a sensor fusion system.

## AWARDS & SCHOLARSHIPS

- |   |      |
|---|------|
| • Best Student Paper Award, CVPR<br>Awarded to the single image category specific reconstruction paper.   | 2015 |
| • Outstanding Graduate Student Instructor Award, UC Berkeley<br>For the first offering of Introduction to Machine Learning (CS189) at UC Berkeley                                 | 2013 |
| • Elizabeth and Varkey Cherian Award, IIT Kanpur<br>Awarded for best senior thesis with social impact.  | 2012 |
| • Award for Excellence in Community Service, IIT Kanpur.<br>For serving as Assistant Coordinator of the Counseling Service (student body at IITK)                                 | 2012 |
| • Honda Young Engineer and Scientist (YES) Award, Honda Foundation<br>Awarded to 14 undergraduate students in India for outstanding overall performance and leadership qualities. | 2011 |
| • TODAI-IIT Scholarship, University of Tokyo<br>Awarded for academic excellence to two undergraduate students at IIT Kanpur.  | 2009 |
| • National Gold Medal, InPhO and InChO<br>Awarded to 30 students in India selected for the International Physics and Chemistry Olympiad camps                                     | 2008 |
| • National Talent Search (NTSE) Scholarship, NCERT.<br>Awarded to 1000 high school students in India by NCERT based on academic merit.  | 2006 |

PUBLICATIONS	A. Kar, C. Häne, J. Malik, “ <b>Learning a Multi-view Stereo Machine</b> ”, <i>Neural Information Processing Systems(NIPS)</i> , 2017	
	S. Tulsiani*, <u>A. Kar*</u> , J. Carreira, J. Malik, “ <b>Learning Category Specific Deformable 3D Models for Object Reconstruction</b> ”, <i>IEEE Transactions on Pattern Analysis and Machine Intelligence (TPAMI)</i> , 2017	
	J. Malik, P. Arbeláez, J. Carreira, K. Fragkiadaki, R. Girshick, G. Gkioxari, S. Gupta, B. Hariharan, A. Kar, S. Tulsiani, “ <b>The three R's of computer vision: Recognition, Reconstruction and Reorganization</b> ”, <i>Pattern Recognition Letters</i> , 2016	
	S. Tulsiani, A. Kar, Q. Huang, J. Carreira, J. Malik, “ <b>Shape and Symmetry Induction for 3D Objects</b> ”, <i>arXiv:1511.07845</i> , 2015	
	A. Kar, S. Tulsiani, J. Carreira, J. Malik, “ <b>Amodal Completion and Size Constancy in Natural Scenes</b> ”, <i>International Conference on Computer Vision (ICCV)</i> , 2015	
	J. Carreira, <u>A. Kar</u> , S. Tulsiani, J. Malik, “ <b>Virtual View Networks for Object Reconstruction</b> ”, <i>Computer Vision and Pattern Recognition (CVPR)</i> , 2015	
	A. Kar*, S. Tulsiani*, J. Carreira, J. Malik, “ <b>Category-Specific Object Reconstruction from a Single Image</b> ”, <i>Computer Vision and Pattern Recognition (CVPR)</i> , 2015	
TEACHING EXPERIENCE	N. Joshi, <u>A. Kar</u> , M. Cohen, “ <b>Looking At You: Fused Gyro and Face Tracking for Viewing Large Imagery on Mobile Devices</b> ”, <i>SIGCHI Conference on Human Factors in Computing Systems (CHI)</i> , 2012	
	• CS188: Introduction to Artificial Intelligence, UC Berkeley Graduate Student Instructor with Prof. Pieter Abbeel	Spring 2014
	• CS189: Introduction to Machine Learning, UC Berkeley Graduate Student Instructor with Prof. Jitendra Malik	Spring 2013
SKILLS	Python, MATLAB, Tensorflow, Caffe, $\LaTeX$ , OpenCV, NumPy, SciPy, Scikit-learn	
PROFESSIONAL & STUDENT ACTIVITIES	• Reviewer for Computer Vision and Pattern Recognition (CVPR)	2016 - 2018
	• Reviewer for International Conference on Computer Vision (ECCV)	2016
	• Reviewer for International Conference on Computer Vision (ICCV)	2017
	• Social Committee member, CS Graduate Students Association, UC Berkeley	2013
	• Assistant Coordinator, Student Guide and Link Student, Counselling Service, IITK	2009 – 2011
	<ul style="list-style-type: none"> <li>• Helped organize the new student orientation program for undergraduates at IIT Kanpur.</li> <li>• Taught basic math, physics and programming courses to freshmen/sophomores.</li> <li>• Conducted workshops for students focused on mental health and general well-being.</li> </ul>	