Abhishek Kar

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EDUCATION

University of California, Berkeley Aug 2012 – Present

- Ph.D. in Computer Science
  - Thesis: Modeling the 3D world from Image Collections
  - 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

Berkeley Artificial Intelligence Research (BAIR), UC Berkeley Aug 2012 – Present

- 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 above.

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.

PUBLICATIONS

S. Tulsiani*, A. Kar*, J. Carreira, and J. Malik, **"Learning Category Specific Deformable 3D Models for Object Reconstruction"**, *IEEE Transactions on Pattern Analysis and Machine Intelligence (TPAMI)*, 2017

J. Malik, P. Arbeláez, J. Carreira, K. Fragkiadaki, R. Girshick, G. Gkioxari, S. Gupta, B. Hariharan, A. Kar and S. Tulsiani, **"The three R's of computer vision: Recognition, Reconstruction and Reorganization"**, *Pattern Recognition Letters*, 2016

S. Tulsiani, A. Kar, Q. Huang, J. Carreira and J. Malik, **"Shape and Symmetry Induction for 3D Objects"**, *arXiv preprint arXiv:1511.07845*, 2015

A. Kar, S. Tulsiani, J. Carreira, and J. Malik, **"Amodal Completion and Size Constancy in Natural Scenes"**, *International Conference on Computer Vision (ICCV)*, 2015

J. Carreira, A. Kar, S. Tulsiani, and J. Malik, **"Virtual View Networks for Object Reconstruction"**, *Computer Vision and Pattern Recognition (CVPR)*, 2015

A. Kar*, S. Tulsiani*, J. Carreira, and J. Malik, **"Category-Specific Object Reconstruction from a Single Image"**, *Computer Vision and Pattern Recognition (CVPR)*, 2015

N. Joshi, A. Kar and M. Cohen, **"Looking At You: Fused Gyro and Face Tracking for Viewing Large Imagery on Mobile Devices"**, *SIGCHI Conference on Human Factors in Computing Systems (CHI)*, 2012

AWARDS & SCHOLARSHIPS

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

TEACHING EXPERIENCE

- CS188: Introduction to Artificial Intelligence, UC Berkeley — Spring 2014
  Graduate Student Instructor with Prof. Pieter Abbeel
- CS189: Introduction to Machine Learning, UC Berkeley — Spring 2013
  Graduate Student Instructor with Prof. Jitendra Malik

SKILLS

C++, Python, MATLAB, Tensorflow, Caffe, LaTeX, OpenCV, NumPy, SciPy, Scikit-learn

PROFESSIONAL & STUDENT ACTIVITIES

- Reviewer for Computer Vision and Pattern Recognition (CVPR) — 2016, 2017
- 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
  - Helped organize the new student orientation program for undergraduates at IIT Kanpur.
  - Taught basic math, physics and programming courses to freshmen/sophomores.
  - Conducted workshops for students focused on mental health and general well-being.