

MAHEEN RASHID

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EDUCATION

- University of California at Davis - Computer Science Department** 2015-Present
PhD. Advisor: Dr. Yong Jae Lee
- Carnegie Mellon University - Robotics Institute** 2012-2014
Masters in Robotics. Advisor: Dr. Martial Hebert
- Lahore University of Management Sciences. School of Science and Engineering** 2007-2011
BSc (Hons) in Computer Science. Advisor: Dr. Sohaib Khan

WORK EXPERIENCE

- UC Davis - Computer Science Department** Sep 2015 - Present
Graduate Student Researcher
Davis, CA, USA
Researching automatic pain detection in horses as part of large interdisciplinary project. Involves data collection and annotation, facial action unit coding, and deep learning on horse expressions.
Accepted at CVPR 2017. Written in Torch and Python.
- Yahoo - Flickr Vision/ML Team** July 2017 - Sep 2017
Research Intern
San Francisco, CA, USA
Improved face detection accuracy for personal photo collections. Developed 3D informed spatial transformer network for face recognition. Developed frontalization and occlusion methods for assisting in face recognition.
Developed in Tensorflow.
- UC Davis - Computer Science Department** Spring 2015, Fall 2016
Teaching Assistant
Davis, CA, USA
Teaching Assistant for Theory of Computation ECS 120, and Introduction to Computers ECS 15.
- Mint Solutions** August 2015 - August 2016
Software Developer
Kopavogur, Iceland
Improved the core machine learning engine of MedEye - a pill scanner that uses computer vision to prevent drug errors.
Developed in Python with a MySQL backend.
- Carnegie Mellon University - Robotics Institute** August 2013 - May 2014
Graduate Student Researcher
Pittsburgh, PA, USA
Researched understanding the geometry, layout and composition of indoor scenes through the aid of geometry based features, Google Warehouse 3D models, and 2D object detectors. Written in C/C++ and MATLAB.
Published in 3DV 2014 and IJCV 2014
- Computer Science Department- LUMS** October 2011 - June 2012
Research Assistant
Lahore, Pakistan
Researched angle regularity as a cue for 2D to 3D reconstruction of man-made scenes under supervision of Dr. Sohaib Khan.
Published in CVIU 2018 and ECCV 2012. Developed in MATLAB.
- Koc University, Summer Research Program** July 2011 - August 2011
Research Assistant
Istanbul, Turkey
Developed software to be used in lab experiments on auction behaviour under supervision of Dr. Seda Ertac.
- Computer Science Department- LUMS** Spring 2011, Fall 2009
Teaching Assistant
Lahore, Pakistan
Was Teaching Assistant for the courses Design and Analysis of Algorithms, Discrete Mathematics and Introduction to Computer Science.
- Computer Science Department- LUMS** Summer 2010, Summer 2009
Research Assistant
Lahore, Pakistan
Worked on the project "Regression Depth Conjecture in 3D Space" under supervision of Dr. Nabil Mustafa.
Researched on bounding the maximum number of edges in a Gabriel Graph under the supervision of Dr. Nabil Mustafa.

PUBLICATIONS

Single-View Reconstruction using Orthogonal Line-pairs

Computer Vision and Image Understanding, 2018

Aamer Zaheer, **Maheen Rashid**, Muhammad A Riaz, Sohaib Khan

Interspecies Knowledge Transfer for Facial Keypoint Prediction

Computer Vision and Pattern Recognition, 2017

Maheen Rashid, Xiuye Gu, Yong Jae Lee

Detailed 3D Model Driven Single View Scene Understanding

International Conference on 3D Vision, 2014

Maheen Rashid, Martial Hebert

3DNN: Viewpoint Invariant 3D Geometry Matching for Scene Understanding

International Journal of Computer Vision, 2014

Scott Satkin, **Maheen Rashid**, Jason Lin, Martial Hebert

Shape From Angle Regularity

European Conference of Computer Vision, 2012

Aamer Zaheer, **Maheen Rashid**, Sohaib Khan

SELECTED PROJECTS

Blind Convolutional Neural Networks Performance

Fall 2015

Trained and tested convolutional neural networks with varying levels of familiarity with certain image classes to establish CNN's applicability for unsupervised object discovery.

Automatic Extraction of Goal Events from Soccer Videos

Fall 2013

Used visual and audio cues in soccer matches to learn and predict goal events in soccer matches.

Object Swapping in Data Driven Scene Understanding

Spring 2013

Used intelligent insertion and replacement of 3D models of indoor scenes and furniture to refine and improve the 3D understanding of indoor scenes from single images.

Single View Reconstruction Using TILT

Spring 2013

Used Transform Invariant Low rank Textures as cue for single view reconstruction.

Geometric Refinement using MCMC in Data Driven Scene Understanding

Fall 2012

Developed a Markov Chain Monte Carlo based approach to geometric refinement of 3D models matched to indoor scenes.

Shape From Angle Regularity

October 2011 - June 2012

Used angle regularity as a cue to automatically reconstruct multi-planar scenes from a single view.

A new approach to 2D to 3D reconstruction

August 2010 - June 2011

Enabled users to create dense 3D reconstructions using multiple single view reconstructions. Project also involved in painting and intuitive GUI development.

Submitted Undergraduate thesis on the topic.

HONORS RECEIVED AND POSITIONS HELD

Lead Women in Computer Science Graduate Group

September 2017 - Present

College of Engineering Dean's Graduate Student Adviosry Committee Member

September 2017 - Present

Graduate Student Association Computer Science Representative

October 2016 - Present

Graduate Student Mentor (First Friend Program)

August 2016 - June 2017

Fulbright Scholar

August 2012 - May 2014

Graduated on Dean's Honour List

June 2011

SKILLS

PyTorch, Torch, Tensorflow, Caffe, Python, Java, C/C++, MATLAB, LaTeX, Bash. Experience in: OpenGL, OpenCV
Selected Course work: Deep Learning, Computer Architecture, Computer Vision, Learning and Geometry Based Methods in Computer Vision, Machine Learning, Math Fundamentals For Robotics, Computer Graphics

VOLUNTEERING

The Citizen's Foundation Rahbar Program, Son Rise Autism Program, Amnesty International