M. Amin Zarshenas

Illinois Institute of Technology
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Research Interest

- Computer Vision and Machine Learning
  - Image Segmentation, Feature Extraction and Classification, Object Detection and Tracking, Action Recognition
  - Camera Calibration, Stereo Image Rectification, Depth Estimation and Refinement, Image Registration and Fusion, View Synthesis and 3D Reconstruction, Structure from Motion
  - Image and video coding, 3D video compression

Education

- **Illinois Institute of Technology**, Chicago, IL   (Expected May 2015)
  Department Electrical and Computer Engineering   (GPA 4.00)
  M.Sc. in Electrical and Computer engineering
  Focus: Communication and Signal Processing
- **Shiraz University**, Shiraz, Iran   (July 2013)
  Department of Electrical and Computer Engineering   (GPA 3.69)
  B.S. in Electrical and Computer Engineering

Publication

- Zarshenas A., Kim J. (2015) "Segmentation based fast depth estimation algorithm for detection applications", (In Progress)
- Zarshenas A., Mesmakhosroshahi M., Kim J. (2014) "High speed low redundancy predictive based depth map estimation algorithm using color image information", (In Progress)
- Zarshenas A., Loghman M., Chung K., Lee Y., Kim J. (2014) "A novel depth estimation method for non-rectified stereo images", in *Proc. of IEEE International Soc Design Conference (ISOCC)*, (Accepted to be published on March 2015)

Research Experience

- *Multimedia Communication Lab. (MMCOM)*, *Link*   (2013-present)
  Real-time stereo image Rectification for un-calibrated stereo cameras
  Depth map Estimation and Refinement for Pedestrian Detection purposes
- *Embedded Computing and Signal Processing Research Lab*   (2013-2014)
  FPGA based real-time high performance Discrete Wavelet Transform implementation
  Image Fusion implementation on hardware in order to combine the features of daylight and dark image
- *Shiraz University*   (2012-2013)
  Multi Resolution Image processing combined with statistical characteristics in Image Fusion
  Intelligence vehicle and traffic detection using Wireless magnet Sensor Networks

Selected Courses

- Statistical Pattern Recognition – ECE 566   IIT-(Fall 2014)
- Video Communications – ECE 508   IIT-(Fall 2014)
- Applied Optimization Engineering – ECE 505   IIT-(Fall 2014)
- Computer Vision and Image Processing - ECE 565   IIT-(Spring 2014)
- Image Processing – ECE 481   IIT-(Spring 2014)
- Digital Signal Processing II – ECE 569   IIT-(Spring 2014)
- Digital Signal Processing I – ECE 436   IIT-(Fall 2013)
- Introduction to Digital Image Processing   Shiraz U -(Fall 2012)
- Introduction to Radar Systems   Shiraz U -(Fall 2012)

Computer Skills
- Programming: MATLAB, C, C++
- HDL Programming: VHDL, Verilog
- CAD Tools: Xilinx ISE, Virtuoso, Synopsis, HSPICE
- Microwave Tools: CST, HFSS, Microwave Office
- Others: Code Vision AVR, Mote View (Wireless Sensor Network), Genesis, ADS, Dionysus

Working Experience
- Working as an Electrical Engineering Assistant in "Sayyar Ertebat Engineering Inc.", Shiraz, Iran (2011-2012)
- Working as an adviser at "NODET" for pre-university students, Shiraz, Iran (2008-2010)

Teaching Experience
- Teaching Assistant for the course "Engineering Signals and Systems", Illinois Institute of Technology, Chicago, IL (Fall 2014)
- Teaching Assistant for the course "Communication Systems II", Shiraz University, Shiraz, Iran (Spring 2012)
- Teaching Assistant for the course "Communication Systems I", Shiraz University, Shiraz, Iran (Fall 2011)
- Teaching Assistant for the course "Electronic Laboratory I", Shiraz University, Shiraz, Iran (Spring 2011)

Honor and Academic Awards
- Member of "National Office of Exceptional Talents", Shiraz, Iran (2008-2013)
- Ranked in the top 0.2% in the country with an applicant pool of more than 400,000 students in the National University Entrance Exam, Iran (2008)
- Member of "National Organization for Developing Exceptional Talents (NODET)", Iran (2001-2008)