

SHAOHUA WAN

3501 Lake Austin Blvd, Brackenridge Apt 3375B, Austin Texas 78703

(512) 363-9242 • shaohuawan@utexas.edu

EDUCATION

The University of Texas at Austin, Austin, Texas, US

- Ph.D., 2015/09

The Beijing University of Posts & Telecommunications, Beijing, China

- B.S., 2011/06

RESEARCH EXPERIENCE

Computer Vision Research Center The University of Texas at Austin

Research Assistant (2011/11 - 2015/09)

- Egocentric action recognition, scene recognition, facial expression recognition

Siemens Corporate Research Princeton, New Jersey

Research Intern (2014/06 - 2014/08)

- Convolutional sparse coding based image classification

Research Intern (2013/06 - 2013/08)

- Low-rank & sparse matrix decomposition for foreground segmentation

PROJECTS

Computer Vision Research Center The University of Texas at Austin

- Egocentric activity recognition from RGB-D videos
 - Develop foreground segmentation techniques and novel features for recognizing egocentric actions.
- Indoor scene recognition from RGB-D images
 - Develop dictionary learning algorithms for recognizing indoor scene categories.
- Spontaneous facial expression recognition from RGB images
 - Develop metric learning techniques for recognizing facial expressions.

Siemens Corporate Research Princeton, New Jersey

- Convolutional sparse coding for image classification
 - Develop image feature coding methods for image classification.
- Low-rank and sparse matrix decomposition
 - Develop low-rank and sparse matrix decomposition method for foreground segmentation.

PUBLICATIONS

- Jie Shao, Ilaria Gorib, **Shaohua Wan**, J.K. Aggarwal, “3D Dynamic Facial Expression Recognition using Low-Resolution Videos”, *Pattern Recognition Letters* (to appear), 2015.
- **Shaohua Wan**, S. Sun, S. Bhattacharya, S. Kluckner, T. Chen, A. Kamen, “Towards an Efficient Computational Framework for Guiding Surgical Resection through Intra-operative Endo-microscopic Pathology.”, 18th Intl. Conf. on Medical Image Computing and Computer Assisted Interventions (MICCAI 2015), Munich, Germany, October 2015.
- **Shaohua Wan**, and J.K. Aggarwal, “Robust Object Recognition in RGB-D Egocentric Videos based on Sparse Affine Hull Kernel.”, *IEEE Workshop on Perception Beyond the Visual Spectrum (PBVS)* in conjunction with CVPR, Boston, US, June 2015.
- **Shaohua Wan**, and J.K. Aggarwal, “Mining Discriminative States of Hands and Objects to Recognize Egocentric Actions with a Wearable RGBD Camera.”, *IEEE Workshop on Observing and Understanding Hands in Action (HANDS 2015)* in conjunction with CVPR, Boston, US, June 2015.
- **Shaohua Wan**, Changbo Hu, and J.K. Aggarwal, “Indoor Scene Recognition from RGB-D Images by Learning Scene Bases.”, 22nd Intl. Conf. on Pattern Recognition (ICPR2014), Stockholm, Sweden, August 2014.
- **Shaohua Wan** and J.K. Aggarwal, “Scene Recognition by Jointly Modeling Latent Topics”, *IEEE Winter Conference on Applications of Computer Vision (WACV2014)*, Steamboat Springs CO, March 2014.
- **Shaohua Wan** and J.K. Aggarwal, “Spontaneous Facial Expression Recognition: A Robust Metric Learning Approach”, *Pattern Recognition*, Volume 47, Issue 5, May 2014, Pages 1859-1868.
- **Shaohua Wan** and J.K. Aggarwal. “A metric learning-based voting method for expression recognition”, 10th IEEE Intl. Conf. on Automatic Face and Gesture Recognition (FG2013), Shanghai, China, April 2013.

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PATENTS/INVENTION DISCLOSURES

- Shaohua Wan, Shanhui Sun, Subhabrata Bhattacharya, Terrence Chen, Ali Kamen, “Towards Automated Brain Tumor Diagnosis using Image Classification: Learning a Discriminative Dictionary”, Siemens Corporate Research, Princeton, NJ (invention disclosure filed)
- Shaohua Wan, Shanhui Sun, Terrence Chen, Bogdan Georgescu, and Ali Kamen, “System and method for deconvolutional network based classification of cellular images and videos”, Siemens Corporate Research, Princeton, NJ (patent pending)
- Shaohua Wan, Shanhui Sun, Stefan Kluckner, Terrence Chen, and Ali Kamen, “System and method for locality-constrained sparse coding based classification of cellular images and videos”, Siemens Corporate Research, Princeton, NJ (patent pending)

HONORS

- Teaching Award in Recognition of Excellence in Teaching, The University of Texas at Austin, 2013
- National Scholarship (top 1% of the college students nation-wide), 2008, 2009.

SKILLS

- **Languages:** C/C++, Cuda, Python, Matlab, Java.
- **Operating System:** Linux, Windows.