Shugao Ma

CONTACT INFORMATION

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EDUCATION

Boston University, Boston, MA, USA
Ph.D Candidate, Computer Science, present

Chinese Academy of Sciences, Beijing, China
Master of Engineering, Computer Applied Technology, July 2009

Fudan University, Shanghai, China
Bachelor of Engineering , Software Engineering, July 2006

ACADEMIC EXPERIENCE

Boston University, Boston, MA, USA
Research Assistant September, 2010 - present
The focus of the research is on automatic human action and interaction recognition and localization in videos, especially realistic videos such as sports videos and TV programs. The main idea is in learning space, time and hierarchical structures in human actions from video data and, based on these structures, build effective human action classification and localization models and systems. Other research projects include unsupervised visual attribute learning, visual tracking and a new computer vision problem salient object subitizing.

Chinese Academy of Sciences, Beijing, China
Research Assistant September, 2006 - July, 2009
The theme of the research is in exploring local invariant visual features in image and video content analytic tasks including image scene classification, camera movement estimation and fighting scene spotting in action movies.

INDUSTRIAL RESEARCH EXPERIENCE

Disney Research, Pittsburgh, PA, USA
Intern June, 2015 - Sep., 2015
Designed and implemented a deep learning architecture for activity detection that combines Convolutional Neural Network and Recurrent Neural Network. Our method achieved much higher activity detection performance than the most recently reported results on a large scale dataset ActivityNet.

Disney Research, Pittsburgh, PA, USA
Intern February, 2014 - June, 2014
Proposed a new effective approach for automatic human action and interaction recognition in sports videos and TV program videos. In this approach, spatial, temporal and hierarchical structures in human actions are learned from video data and utilized to construct action classifiers. This work is published in CVPR 2015 for oral presentation.

Google, Mountain View, CA, USA
Intern May, 2013 - August, 2013
Designed and implemented a system for predicting users video advertising intention on YouTube using large scale machine learning methods. The main challenge addressed is finding relevant data for the prediction task by analyzing large amount of YouTube data, as well as constructing an efficient large scale machine learning system that achieves good prediction accuracy.

Microsoft, Beijing, China
Intern May, 2007 - August, 2007
Designed and implemented an automatic video perception quality assessment system. The main challenge is to study what visual and acoustic features are most relevant to the perception quality of videos. Based on these features, a effective machine learning system is designed and implemented to automatically score the videos.

SAP Labs, Shanghai, China
Intern April, 2006 - July, 2006
Designed and implemented a prototype of Assumption based Truth Maintenance System (ATMS). ATMS is an artificial intelligent system that, given a set of potentially conflicting rules, automatically finds the smallest changes to the rules so that all conflicts are removed.

REFEREED PUBLICATIONS

Shugao Ma, Leonid Sigal and Stan Sclaroff. Space-Time Tree Ensemble for Action Recognition. *IEEE Conf. on Computer Vision and Pattern Recognition (CVPR), oral*, 2015.

Jianming Zhang, Shugao Ma, Mehrnoosh Sameki, Stan Sclaroff, Margrit Betke, Zhe Lin, Xiaohui Shen, Brian Price and Radomir Mech. Salient Object Subitizing. *IEEE Conf. on Computer Vision and Pattern Recognition (CVPR)*, 2015.

Jianming Zhang, Shugao Ma, and Stan Sclaroff. MEEM: Robust Tracking via Multiple Experts using Entropy Minimization. *European Conference on Computer Vision (ECCV)*, 2014.

Svebor Karaman, Lorenzo Seidenari, Shugao Ma, Alberto Del Bimbo and Stan Sclaroff. Adaptive Structured Pooling for Action Recognition. *British Machine Vision Conference (BMVC)*, 2014.

Shugao Ma, Jianming Zhang, Nazli Ikizler-Cinbis and Stan Sclaroff. Action Recognition and Localization by Hierarchical Space-Time Segments. *IEEE International Conference on Computer Vision (ICCV)*, 2013.

Shugao Ma, Nazli Ikizler-Cinbis and Stan Sclaroff. Unsupervised Learning of Discriminative Relative Visual Attributes. *2nd International Workshop on Parts and Attributes*, in conjunction with *European Conference on Computer Vision (ECCV)*, 2012.

Shugao Ma and Weiqiang Wang. Effective Fighting Shot Discrimination in Action Movie. *Journal of Computer Science and Technology (JCST)*, Vol.26, No.1, pp.187-19, 2011.

Shugao Ma and Weiqiang Wang. Effective Camera Motion Analysis Approach. *IEEE International Conference on Networking, Sensing and Control (ICNSC)*, 2010.

Shugao Ma, Weiqiang Wang, Shuqiang Jiang, Qingming Huang and Wen Gao. Effective Scene Matching with Local Feature Representatives. *International Conference on Pattern Recognition (ICPR)*, 2008.

TEACHING EXPERIENCE

Boston University September, 2014 - December, 2014
Introduction to Computers, *Teaching Fellow*

Boston University September, 2010 - December, 2010
Combinatoric Structures, *Teaching Fellow*

University of Chinese Academy of Sciences March, 2009 - July, 2009
Advanced Technologies in Human/Computer Interface, *Teaching Assistant*

University of Chinese Academy of Sciences September, 2008 - January, 2009
Data Mining, *Teaching Assistant*