

ZHE WANG

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EDUCATION

Ph.D in Computer Science, University of California, Irvine
Research Area: Computer Vision and Machine Learning
Advisor: Prof. Charless c.Fowlkes

Sep. 2016-present

B.S. in Digital Media Technology, Beijing University of Posts and Telecommunications, Beijing
Advisor: Prof. Guangda Su

Jul. 2014

RESEARCH INTEREST

Computer Vision: action/scene/object recognition, action localization
Machine Learning: representation learning, deep learning

EXPERIENCE

Research Assistant in Computer Vision, MMLAB at CUHK, Multimedia Center at SIAT, Shenzhen
Research Area: Action/Scene/Object Recognition Advisor: Prof. Yu Qiao

Sep.2014-Aug. 2016

RESEARCH EXPERIENCE

Action/Scene/Object Recognition

Multimedia Research Center, Shenzhen Institutes of Advanced Technology
Research Assistant

Nov. 2014-present
Advisor: Prof. Yu Qiao

- Proposed and compared different transfer methods from large scale scene/object recognition to event recognition and received state-of-the-art performance on ChaLearn culture event (Accuracy 87.1%), WIDER (Accuracy 53%), UIUC Sports Event (Accuracy 98.8%)
- Proposed Temporal-Segment-Network to train CNN with longer time range. Received state-of-the-art performance on UCF101 (Accuracy 94.2%) and HMDB51 (Accuracy 69.4%). This structure also helped us win the ActivityNet Challenge 2016 (mAP 93.2%)
- Proposed semantic scene representation and obtained state-of-the-art performance on MIT indoor (Accuracy 86.2%) and SUN 397 (Accuracy 73.0%, outperform human performance)
- Accelerated the speed of two-stream ConvNets for action recognition to real time (390.7 fps) with state-of-the-art performance on UCF101 (Accuracy 86.4%) and THUMOS'14 (Accuracy 65.3%)
- Improved VLAD by codebook enhancement, obtained Accuracy 59.79% (1.4% improvement that baseline) on HMDB51 and 63.2% (1.5 improvement that baseline) on PASCAL VOC'07
- Trained very deep two-stream ConvNets and obtained state-of-the-art performance on UCF101 (Accuracy 91.4%), and gave good practices for training very deep two-stream ConvNets
- Proposed *Better OS-CNNs* and got 3rd place in ChaLearn ICCV'15 Event Recognition in Images with Accuracy 84.7% on ChaLearn Event Recognition Dataset
- Proposed *OS-CNNs* and got 1st place in ChaLearn CVPR'15 Event Recognition in Images with Accuracy 85.5% on ChaLearn Event Recognition Dataset
- Proposed an action recognition system by exploiting very deep two-stream ConvNets and Fisher vector representation of iDT features and were among the top performers in THUMOS'15 challenge with 68% mAP on validation set and 68.03% mAP on test set

Action Localization

Multimedia Research Center, Shenzhen Institutes of Advanced Technology
Research Assistant

Mar. 2015– Apr. 2015
Advisor: Prof. Yu Qiao

- Proposed an action spotting system by utilizing integral Fisher vector and iDt features and got 1st place in ChaLearn CVPR'15 action/interaction classification with Jaccard Index of 0.5385

3D Face Reconstruction Using RGBD Image

Image recognition and high-speed image processing laboratory, Tsinghua University

Dec. 2013 – May. 2014

Raspberry Camera Based on Android System

Team Leader

Sep. 2013 – Jan. 2014

Advisor: Prof. Xueming Li

- Designed and developed a fancy Android camera APK with several effects including photo reversal, photo watermark, stick figure, photo stylization, cartoon style
- Implemented algorithms using OpenCV(C++), and transplanted it to Android(Java) system
- Posted online http://v.youku.com/v_show/id_XNjYwMDYyMjM2.html

PUBLICATIONS

Z. Wang, L. Wang, Y. Wang, B. Zhang, and Y. Qiao, Weakly Supervised PatchNets: Describing and Aggregating Local Patches for Scene Recognition, submitted on TIP, 2016

L. Wang, **Z. Wang**, Y. Qiao, and L. Van Gool, Transferring Object-Scene Convolutional Neural Networks for Event Recognition in Still Images, submitted on IJCV, 2016

L. Wang, Y. Xiong, **Z. Wang**, Y. Qiao, D. Lin, X. Tang and L. Van Gool, Temporal Segment Networks: Towards Good Practices for Deep Action Recognition, ECCV, 2016

L. Wang, Y. Xiong, **Z. Wang**, B. Zhang, H. Song, W. Li, D. Lin, Y. Qiao, L. Van Gool and X. Tang, CUHK & ETHZ & SIAT Submission to ActivityNet Challenge 2016, ActivityNet Large Scale Activity Recognition Challenge, CVPR, 2016

B. Zhang, L. Wang, **Z. Wang**, Y. Qiao, and H. Wang, Real-time Action Recognition with Enhanced Motion Vector CNNs, CVPR, 2016

Z. Wang, Y. Wang, L. Wang, and Y. Qiao, Codebook Enhancement of VLAD Representation for Visual Recognition, ICASSP, 2016

L. Wang, **Z. Wang**, S. Guo, and Y. Qiao, Better Exploiting OS-CNNs for Better Event Recognition in Images, ChaLearn Looking at People (LAP) workshop, ICCV, 2015

L. Wang, Y. Xiong, **Z. Wang**, and Y. Qiao, Towards Good Practices for Very Deep Two-Stream ConvNets, ArXiv 1507.02159, 2015

L. Wang, **Z. Wang**, W. Du, and Y. Qiao, Object-Scene Convolutional Neural Networks for Event Recognition in Images, ChaLearn Looking at People (LAP) workshop, CVPR, 2015

Z. Wang, L. Wang, W. Du, and Y. Qiao, Exploring Fisher Vector and Deep Networks for Action Spotting, ChaLearn Looking at People (LAP) workshop, CVPR, 2015

L. Wang, **Z. Wang**, Y. Xiong, and Y. Qiao, CUHK&SIAT Submission for THUMOS15 Action Recognition Challenge, THUMOS Challenge 2015, CVPR 2015

CONTESTS

ActivityNet Challenge'CVPR16: Action Recognition	Rank 1 st	Jun.2016
ChaLearn Looking At People'ICCV15: Cultural Event Classification	Rank 3 rd	Sep.2015
THUMOS'15 Action Classification Challenge	Rank 5 th	Apr.2015-May.2015
ChaLearn Looking At People'CVPR15: Cultural Event Classification	Rank 1 st	Feb.2015
ChaLearn Looking At People'CVPR15: Action/Interaction Classification	Rank 1 st	Feb.2015
First Audio and Video Competition: Terror Video Detection	Rank 5 th	Sep.2014-Oct.2015

PROFESSIONAL ACTIVITIES

Reviewer for ICCV 2015 workshop

August.2015

SKILLS

- Languages: Fluent in Mandarin
- Computer: Proficient in Latex, Matlab, Python, Caffe, C++