Cheng Zhang

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Research Interests

Machine Learning, Computer Vision, and Mobile Sensing

Education

The Ohio State University, Columbus, OH, U.S. 01/2017 - present
Ph.D. in Computer Science and Engineering
Advisors: Wei-Lun Harry Chao and *Dong Xuan*

Beijing University of Posts and Telecommunications (BUPT), Beijing, China 09/2013 - 06/2016
M.S. in Computer Science and Engineering
Thesis: Research on Key Techniques of Gait Recognition based on Deep Learning
Advisor: Huadong Ma

Tianjin University, Tianjin, China 09/2009 - 06/2013
B.S. in Computer Software
Thesis: Minimum Topological Discrepancy Grid of Superpixels for Fast Object Localization
Advisor: Wei Feng

Publications

Conference Proceedings

1. **An Empirical Study on Leveraging Scene Graphs for Visual Question Answering**
Cheng Zhang, Wei-Lun Chao, Dong Xuan
*British Machine Vision Conference **(BMVC)**, Cardiff, UK, Sept 2019 **(Oral)***

2. **MV-Sports: A Motion and Vision Sensor Integration-Based Sports Analysis System**
Cheng Zhang, Fan Yang, Gang Li, Qiang Zhai, Yi Jiang, Dong Xuan
*IEEE International Conference on Computer Communications **(INFOCOM)**, Honolulu, HI, USA, Apr 2018*

3. **Third-Eye: A Mobilephone-Enabled Crowdsensing System for Air Quality Monitoring**
Liang Liu, Wu Liu, Yu Zheng, Huadong Ma, **Cheng Zhang**
*ACM International Joint Conference on Pervasive and Ubiquitous Computing **(UbiComp)**, Singapore, Oct 2018*

4. **Siamese Neural Network based Gait Recognition for Human Identification**
Cheng Zhang, Wu Liu, Huadong Ma, Huiyuan Fu
*IEEE International Conference on Acoustics, Speech and Signal Processing **(ICASSP)**, Shanghai, China, Mar 2016*

Journal Articles

1. **Third-Eye: A Mobilephone-Enabled Crowdsensing System for Air Quality Monitoring**
Liang Liu, Wu Liu, Yu Zheng, Huadong Ma, **Cheng Zhang**
*Proceedings of the ACM on Interactive, Mobile, Wearable and Ubiquitous Technologies **(IMWUT)**, Mar 2018*

2. **Learning Efficient Spatial-Temporal Gait Features with Deep Learning for Human Identification**
Wu Liu, **Cheng Zhang**, Huadong Ma, Shuangqun Li
Neuroinformatics, Feb 2018

3. **Scene-free Multi-class Weather Classification on Single Images**
   Zheng Zhang, Huadong Ma, Huiyuan Fu, **Cheng Zhang**
   Neurocomputing, May 2016

Patents

1. **Method and Device for Gait Recognition**
   Huadong Ma, Wu Liu, Huiyuan Fu, **Cheng Zhang**
   US Patent, 9633268

Research Experience

Ohio State University, OH, USA 09/2018 - present
Research and Teaching Associate, Advisors: Wei-Lun Chao and Dong Xuan
I am working on training with limited data, and vision-language related topics. In particular, I am investigating new models such as graph neural nets and meta learning.

FX Palo Alto Laboratory (FXPAL), CA, USA 05/2019 - 08/2019
Research Intern, Mentors: Francine Chen and Yan-Ying Chen
I worked on the project of artificial intelligence in medicine and imaging (AIMI).

DeepCode Robotics, Shanghai, China 05/2017 - 08/2017, 05/2018 - 08/2018
Research Intern, Mentors: Qiang Zhai and Fan Yang
I worked on developing perception and control algorithms for sports analysis and robot planning. [INFOCOM'18]

Beijing University of Posts and Telecommunications, Beijing, China 09/2013 - 04/2016
Research Associate, Advisor: Huadong Ma
I worked on applying computer vision algorithms to solve real-word problems such as human identification [ICASSP'16] [Neuroinformatics'18], vision-based air quality monitoring [IMWUT'18], and inter-camera object tracking [HHME'15].

Alibaba, Beijing, China 07/2015 - 09/2015
Intern in Multimedia Team (currently DAMO Academy), Mentors: Xian-Sheng Hua and Pan Pan
I worked on large-scale image categorization for Pailitao product - the visual search service on Mobile Taobao. [slides]

Tianjin University, Tianjin, China 09/2011 - 06/2013
Undergraduate student in Media Computing Group, Advisor: Wei Feng
I worked on superpixel gridization for fast object localization. [slides]

Honors and Awards

Ph.D. at Ohio State
IEEE INFOCOM Student Travel Grant Award 2018
Third Place in CVPR LIP Challenge (Multi-Human Pose Estimation) 2018
Third Place in CVPR LIP Challenge (Single Person Human Pose Estimation) 2017

M.S. at BUPT
Best Master's Thesis, BUPT 2016
IEEE ICASSP Student Travel Grant Award 2016
Excellent Graduate, Beijing City 2016
National Scholarship, Ministry of Education, China 2015
VMware Excellent Scholarship 2014

B.S. at Tianjin University
Best Undergraduate Thesis 2013
Excellent Graduate, TJU 2013
Hitachi Scholarship 2012
Golden Award, the 8th Challenge Cup Innovation Competition, China 2012
Weichai Power Scholarship (twice) 2010 and 2011

Professional Activities

Program committee member
ACM Multimedia 2019 (multimodal fusion and embedding, demos and videos)

Reviewer for journals
ACM Transactions on Sensor Networks (ToSN)
PACM on Interactive, Mobile, Wearable and Ubiquitous Technologies (IMWUT)
Machine Vision and Applications (MVA), Springer
Multimedia Tools and Applications (MTAP), Springer

Reviewer for conferences
ACM MM19, IEEE ICME19, IEEE INFOCOM19, IEEE ICIP17-19, IEEE GlobalSIP17-18

Website organization
ACM WiNTECH17 (with Mobicom17)

Teaching

OSU CSE 1222: Programming in C++, Lecturer (40 students)	Spring 2019
OSU CSE 4471: Information Security, Teaching Assistant (40 students)	Fall 2018
OSU CSE 5432: Mobile Handset Systems and Networking, Teaching Assistant (25 students)	Fall 2018
BUPT Computer Graphics, Teaching Assistant (45 students)	Fall 2015

Skills

Languages and Technologies: C/C++, Python, Matlab, Scala, Shell, CUDA, LaTeX

Tools and Libraries: OpenCV, PyTorch, Caffe/Caffe2, Tensorflow, Darknet, Sklearn

Graduate Coursework

Machine Learning, Image Processing, Computer Vision, Real-Time Robotics, Multimedia Computing, Computer Graphics, Advanced Artificial Intelligence, Mobile Robotics with Wireless Technology and Machine Learning, Advanced Operating System, Foundations of Programming Languages, and Algorithm

Last updated: July 5, 2019