

Cheng Zhang

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Research Interests

Machine Learning, Computer Vision, and Mobile Sensing

Education

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

Beijing University of Posts and Telecommunications (BUPT), Beijing, China 2013 - 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 (TJU), Tianjin, China 2009 - 2013
B.S. in Computer Software
Thesis: *Minimum Topological Discrepancy Grid of Superpixels for Fast Object Localization*
Advisor: Wei Feng

Publications

Conference Proceedings

1. **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
2. **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
3. **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

Research Experience

Ohio State University, OH, USA

09/2018 - present

Research assistant, Advisor: Wei-Lun (Harry) Chao

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.

DeepCode Robotics, Shanghai, China

05/2017 - 08/2017, 05/2018 - 08/2018

Intern, Advisor: Dong Xuan

I worked on developing novel algorithms and systems for real-time sports analysis and robot planning. [INFOCOM'18]

Beijing University of Posts and Telecommunications, Beijing, China

09/2013 - 04/2016

Graduate Research Assistant, Advisor: Huadong Ma

I worked on applying computer vision algorithms to solve real-world 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), Mentor: Xian-Sheng Hua and Pan Pan

I worked on large-scale image categorization for Pailitao product - the visual search service on Mobile Taobao. [slides]

Huawei, Beijing, China

08/2014 - 04/2015

Intern in 2012 Laboratories, Mentor: Ke Xia

I worked on using machine learning methods to automatically detect high risk BOM products for Huawei HUMMER early warning system. (Joint project between BUPT and Huawei)

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]

Patents

1. Method and Device for Gait Recognition

Huadong Ma, Wu Liu, Huiyuan Fu, **Cheng Zhang**

US Patent, 9633268

Honors and Awards

Ph.D. in Ohio State

Ranked No.3 in Look into Person Challenge: [Multi-Human Pose Estimation](#) (with CVPR 2018)

IEEE INFOCOM Student Travel Grant Award, 2018

Ranked No.3 in Look into Person Challenge: [Single Person Human Pose Estimation](#) : (with CVPR 2017)

M.S. in 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. in 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

Reviewer for Journals

ACM Transactions on Sensor Networks (ToSN)

Proceedings of the ACM on Interactive, Mobile, Wearable and Ubiquitous Technologies (IMWUT)

Machine Vision and Applications (MVA), Springer

Multimedia Tools and Applications (MTAP), Springer

Reviewer for Conferences

IEEE ICME₁₉, IEEE INFOCOM₁₉, IEEE ICIP₁₇₋₁₈, IEEE GlobalSIP₁₇₋₁₈

Teaching

The Ohio State University

CSE 1222: *Introduction to Computer Programming in C++*, Spring 2019, Instructor

CSE 4471: *Information Security*, Fall 2018, Teaching Assistant

CSE 5432: *Mobile Handset Systems and Networking*, Fall 2018, Teaching Assistant

Beijing University of Posts and Telecommunications

Computer Graphics, Fall 2015, Teaching Assistant

Skills

Language

C/C++, Python, Matlab, Scala, Shell, CUDA

Tool

PyTorch, Caffe, Tensorflow, Darknet

Graduate Coursework

Machine Learning, Image Processing, Speech and Natural Language Processing, Real-Time Robotics, Advanced Operating System, Foundations of Programming Languages, Algorithm, Advanced Artificial Intelligence, Mobile Robotics with Wireless Technology and Machine Learning