Cheng Zhang

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Education

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

M.S. in Computer Science and Engineering *2013 - 2016*
Beijing University of Posts and Telecommunications (BUPT), Beijing, China
Thesis: Research on Key Techniques of Gait Recognition based on Deep Learning (Best Thesis) [thesis][slides]
Advisor: Prof. Huadong Ma

B.S. in Computer Software *2009 - 2013*
Tianjin University (TJU), Tianjin, China
Thesis: Minimum Topological Discrepancy Grid of Superpixels for Fast Object Localization (Best Thesis) [thesis][slides]
Advisor: Prof. Wei Feng

Research Interests

Mobile and Robot System | Computer Vision and Multimedia

Experience

DeepCode Robotics, Shanghai, China *05/2017 - 08/2017, 05/2018 - 08/2018*
Intern, Mentor: Fan Yang and Qiang Zhai
I worked on developing novel algorithms and systems for real-time sports analysis and robot planning. [INFOCOM'18]

China Academy of Telecommunication Research of MIIT, Beijing, China *04/2016 - 12/2016*
Research Assistant in Institute of Standards and Technology, Mentor: Kai Wei
I worked on standardization for big data computing platform, e.g., Spark and Hadoop. [slides]

Beijing University of Posts and Telecommunications, Beijing, China *09/2013 - 04/2016*
Graduate Research Assistant, Advisor: Huadong Ma, Wu Liu and Liang Liu
I worked on applying computer vision algorithms to solve real-word applications such as human identification [ICASSP'16] [Neuroinformatics'18], vision-based air quality monitoring [IMWUT'18], low resolution face restoration [PR'18] and inter-camera object tracking [HHME'15].

Alibaba, Beijing, China *07/2015 - 09/2015*
Intern in Multimedia Team (currently iDST), Mentor: Xian-Sheng Hua and Pan (Phil) 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]

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)**, 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)**, 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)**, 2016*

Journal Articles

1. **Nighttime Face Restoration with Only Visible Spectral Based on Sparse Representation**
   Huiyuan Fu, **Cheng Zhang**, Huadong Ma, Xinpeng Wang
   Pattern Recognition, 2018 (under major revision)

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

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

4. **Outdoor Air Quality Level Inference via Surveillance Cameras**
   Zheng Zhang, Huadong Ma, Liang Liu, Huiyuan Fu, **Cheng Zhang**
   Mobile Information Systems, 2016

5. **Object Tracking in Surveillance Videos Using Spatial-temporal Correlation Graph Model**
   Cheng Zhang, Huadong Ma, Huiyuan Fu
   Journal of Beijing University of Aeronautics and Astronautics, 2015

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 Communication Society 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 Signal Processing Society 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), 2016-
Proceedings of the ACM on Interactive, Mobile, Wearable and Ubiquitous Technologies (IMWUT), 2017-
Machine Vision and Applications (MVA), Springer, 2017-

Reviewer for Conferences
IEEE International Conference on Image Processing (ICIP), 2017, 2018
IEEE Global Conference on Signal and Information Processing (GlobalSIP), 2017

Teaching Experience

Beijing University of Posts and Telecommunications, Fall 2015
Teaching Assistant, Computer Graphics, Instructor: Prof. Haitao Zhang

Skills

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

Tool
Pytorch, Caffe, Tensorflow, Darknet