

# Jian Zhao

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## RESEARCH INTERESTS

Artificial intelligence, deep learning and computer vision, including unconstrained/heterogeneous/large-scale/set-based/low-shot face recognition, image generation and super resolution with adversarial learning, human parsing, and knowledge distillation.

## EDUCATION

Ph.D. Electrical and Computer Engineering, National University of Singapore, 2016.01-2019.04.

Thesis: Deep Learning for Human-Centric Image Analysis: From Face Recognition to Human Parsing.

Advisors: Prof. Jiashi Feng, Prof. Shuicheng Yan.

M.Eng. Computer Science and Technology, School of Computer, National University of Defense Technology, 2012.09-2014.12.

Advisor: Prof. Xucan Chen.

B.Eng. Automation, School of Automation Science and Electrical Engineering, Beihang University, 2008.09-2012.07

## ACADEMIC EXPERIENCE

**Assistant Professor**, Chinese Academy of Military Science, Beijing, China, July 2019 - Present.

**Technical Consultant**, Pensees Pte Ltd, Singapore, April 2019 - Present.

**"Texpert" Research Scientist**, FiT DeepSea AI Lab, Tencent, Shenzhen, China, Dec 2018 - April 2019.

**Research Intern**, Core Technology Group, Learning & Vision, Panasonic R&D Center, Singapore, May 2016 - Sep 2018.

**Research Intern**, China Aerospace Science and Industry Corporation, Beijing, China, Sep 2011 - Jun 2012.

## TEACHING

**Graduate Assistant**, Programming for Computer Interfaces (EE2024), National University of Singapore, Aug 2016 - Dec 2017.

## AWARDS AND HONOURS

**Best Student Paper Award**, 1st author, ACM MM 2018.

**1st-Place Award**, 1st author, MS-Celeb-1M face recognition hard set/random set/low-shot learning challenges with ICCV 2017.

**1st-Place Award**, 1st author, NIST IJB-A unconstrained face verification/identification challenges, 2017.

**2nd-Place Award**, 1st author, L.I.P human parsing/pose estimation challenges with CVPR 2017.

**3rd-Place Award**, 2nd author, MS-Celeb-1M face recognition hard set challenge with ACM MM 2016.

**Excellent Student Award (<10%)**, School of Computer, National University of Defense Technology, 2016.

**Excellent Student Award (<10%)**, School of Computer, National University of Defense Technology, 2015.

**Excellent Graduate Award (<2%)**, National University of Defense Technology, 2014.

**Excellent Student Award (<2%)**, National University of Defense Technology, 2014.

**Guanghua Fellowship (<2%)**, National University of Defense Technology, 2014.

**Contribution Prize**, for Engineering Implementation of Tianhe-2 supercomputer (No.1 on Top500, Jun, 2013), National University of Defense Technology, 2013.

**3rd-Place Award**, 13th "Great Wall Information Cup" challenge, National University of Defense Technology, 2013.

**Excellent Student Award (<10%)**, School of Computer, National University of Defense Technology, 2013.

**1st-Place Award**, Big Data Processing and Information Sub-Forum of the 6th Graduate Innovation Forum, Provincial Education Department of Hunan Province, 2013.

**Excellent Graduate Award (<2%)**, Beihang University, 2012.

**2nd-Place Award**, 5th Student Research Training Program (SRTP), Beihang University, 2012.

**National Endeavor Fellowship**, Central Government & Beijing Government of China, 2011.

**3rd-Place Award**, "Feng Ru Cup" challenge, School of Automation Science and Electrical Engineering, Beihang University, 2011.

**SMC Fellowship**, Beihang University, 2010.

## PUBLICATIONS

### *Journal Articles*

**Jian Zhao**, Jianshu Li, Hengzhu Liu, Shuicheng Yan, Jiashi Feng. *Fine-Grained Multi-Human Parsing*. International Journal of Computer Vision, Minor Revision, 2019. (**IJCV**).

**Jian Zhao**, Lin Xiong, Jianshu Li, Junliang Xing, Shuicheng Yan, Jiashi Feng. *3D-Aided Dual-Agent GANs for Unconstrained Face Recognition*. IEEE Transactions on Pattern Analysis and Machine Intelligence, 2018. (**T-PAMI**).

**Jian Zhao**, Junliang Xing, Lin Xiong, Yan Xu, Shuicheng Yan, Jiashi Feng. *Deep Age-Invariant Face Recognition*. Submitted to International Journal of Computer Vision, Major Revision, 2018. (**IJCV**).

**Jian Zhao**, Junliang Xing, Lin Xiong, Shuicheng Yan, Jiashi Feng. *Recognizing Profile Faces by Imagining Frontal View*. Submitted to International Journal of Computer Vision, 2018. (**IJCV**).

**Jian Zhao**, Lin Xiong, Junliang Xing, Shuicheng Yan, Jiashi Feng. *3D-Driven Face Frontalization for High-Performance Pose-Invariant Face Recognition*. Submitted to International Journal of Computer Vision, 2018. (**IJCV**).

Jianshu Li\*, **Jian Zhao**\*, Yunchao Wei, Congyan Lang, Yidong Li, Terence Sim, Shuicheng Yan, Jiashi Feng. *Fine-Grained Multi-Human Parsing*. Submitted to International Journal of Computer Vision, Major Revision, 2018. (**IJCV**). (\* indicates equal contribution).

Fang Zhao, Jiashi Feng, **Jian Zhao**, Wenhan Yang, Shuicheng Yan. *Robust LSTM-Autoencoders for Face De-Occlusion in the Wild*. IEEE Transactions on Image Processing, 2017. (**T-IP**).

### *Proceedings*

**Jian Zhao**, Jianshu Li, Xiaoguang Tu, Fang Zhao, Yuan Xin, Junliang Xing, Hengzhu Liu, Shuicheng Yan, Jiashi Feng. *Multi-Prototype Networks for Unconstrained Set-based Face Recognition*. International Joint Conference on Artificial Intelligence (**IJCAI** 2019). [Oral](#).

**Jian Zhao**, Yu Cheng, Yi Cheng, Yang Yang, Fang Zhao, Jianshu Li, Hengzhu Liu, Shuicheng Yan, Jiashi Feng. *Look Across Elapse: Disentangled Representation Learning and Photorealistic Cross-Age Face Synthesis for Age-Invariant Face Recognition*. AAAI Conference on Artificial Intelligence (**AAAI** 2019). [Oral](#).

**Jian Zhao**, Yu Cheng, Yan Xu, Lin Xiong, Jianshu Li, Fang Zhao, Karlekar Jayashree, Sugiri Pranata, Shengmei Shen, Junliang Xing, Shuicheng Yan, Jiashi Feng. *Towards Pose Invariant Face Recognition in the Wild*. IEEE International Conference on Computer Vision and Pattern Recognition (**CVPR** 2018).

**Jian Zhao**, Lin Xiong, Yu Cheng, Yi Cheng, Jianshu Li, Li Zhou, Yan Xu, Karlekar Jayashree, Sugiri Pranata, Shengmei Shen, Junliang Xing, Shuicheng Yan, Jiashi Feng. *3D-Aided Deep Pose-Invariant Face Recognition*. International Joint Conference on Artificial Intelligence (**IJCAI** 2018). [Oral](#).

**Jian Zhao**, Jianshu Li, Yu Cheng, Terence Sim, Shuicheng Yan, Jiashi Feng. *Understanding Humans in Crowded Scenes: Deep Nested Adversarial Learning and A New Benchmark for Multi- Human Parsing*. ACM Multimedia Conference (**ACM MM** 2018). [Best Student Paper](#).

**Jian Zhao**, Lin Xiong, Karlekar Jayashree, Jianshu Li, Fang Zhao, Zhecan Wang, Sugiri Pranata, Shengmei Shen, Shuicheng Yan, Jiashi Feng. *Dual-Agent GANs for Photorealistic and Identity Preserving Profile Face Synthesis*. Advances in Neural Information Processing Systems (**NIPS** 2017).

**Jian Zhao**, Jianshu Li, Fang Zhao, Shuicheng Yan, Jiashi Feng. *Marginalized CNN: Learning Deep Invariant Representations*. British Machine Vision Conference (**BMVC** 2017).

Fang Zhao\*, **Jian Zhao**\*, Shuicheng Yan, Jiashi Feng. *Dynamic Conditional Networks for Few-Shot Learning*. European Conference on Computer Vision (**ECCV** 2018). (\* indicates equal contribution).

Jianshu Li, **Jian Zhao**, Yunpeng Chen, Sujoy Roy, Shuicheng Yan, Jiashi Feng, Terence Sim. *Multi-Human Parsing Machines*. ACM Multimedia Conference (**ACM MM** 2018).

Jianshu Li, **Jian Zhao**, Fang Zhao, Hao Liu, Jing Li, Shengmei Shen, Jiashi Feng, and Terence Sim. *Robust Face Recognition with Deep Multi-View Representation Learning*. ACM Multimedia Conference (**ACM MM** 2016).

Fang Zhao, Jianshu Li, **Jian Zhao**, Jiashi Feng. *Weakly Supervised Phrase Localization with Multi-Scale Anchored Transformer Network*. IEEE International Conference on Computer Vision and Pattern Recognition (**CVPR** 2018).

Jianshu Li, Pan Zhou, Yunpeng Chen, **Jian Zhao**, Sujoy Roy, Yan Shuicheng, Jiashi Feng, Terence Sim. *Task Relation Networks*. IEEE Winter Conference on Applications of Computer Vision (**WACV** 2019).

Jianshu Li, Shengtao Xiao, Fang Zhao, **Jian Zhao**, Jianan Li, Jiashi Feng, Shuicheng Yan, Terence Sim. *Integrated Face Analytics Networks through Cross-Dataset Hybrid Training*. ACM Multimedia Conference (**ACM MM** 2017). [Oral](#).

#### Workshop

**Jian Zhao**, Jianshu Li, Xuecheng Nie, Yunpeng Chen, Zhecan Wang, Shuicheng Yan, Jiashi Feng. *Self-Supervised Neural Aggregation Networks for Human Parsing*. Workshop on *Visual Understanding of Humans in Crowd Scene* with CVPR 2017.

**Jian Zhao**, Jianshu Li, Xuecheng Nie, Yunpeng Chen, Zhecan Wang, Shuicheng Yan, Jiashi Feng. *Self-Supervised Neural Aggregation Networks for Human Parsing*. Workshop on *Visual Understanding of Humans in Crowd Scene* with CVPR 2017.

Yu Cheng\*, **Jian Zhao**\*, Zhecan Wang, Yan Xu, Karlekar Jayashree, Shengmei Shen, Jiashi Feng. *Know You at One Glance: A Compact Vector Representation for Low-Shot Learning*. Workshop on *MS-Celeb-1M Challenge* with ICCV 2017. (\* indicates equal contribution).

Zhecan Wang\*, **Jian Zhao**\*, Yu Cheng, Shengtao Xiao, Jianshu Li, Fang Zhao, Jiashi Feng, and Ashraf Kassim. *Conditional Dual-Agent GANs for Photorealistic and Annotation Preserving Image Synthesis*. Workshop on *FaceHUB* with BMVC 2017. (\* indicates equal contribution).

Yan Xu, Yu Cheng, **Jian Zhao**, Zhecan Wang, Lin Xiong, Karlekar Jayashree, Sugiri Pranata, Shengmei Shen, Jiashi Feng. *High Performance Large Scale Face Recognition with Multi-Cognition Softmax and Feature Retrieval*. Workshop on *MS-Celeb-1M Challenge* with ICCV 2017.

Jianshu Li, Yunpeng Chen, Shengtao Xiao, **Jian Zhao**, Sujoy Roy, Jiashi Feng, Shuicheng Yan, Terence Sim. *Estimation of Affective Level in the Wild with Multiple Memory Networks*. Workshop on *First Faces in-the-wild Challenge* with CVPR 2017.

## INVITED TALKS

### Understanding Humans in Visual Scenes

Huawei Noah's Ark Lab, China, 2019.

### Deep Learning for Human-Centric Image Analysis: From Face Recognition to Human Parsing

Peng Cheng Laboratory, China, 2019.

CoLab, School of Computer, Beihang University, China, 2019.

**Margin-based Representation Learning, Residual Knowledge Distillation and Prior-Aided Super Resolution**

Tencent Deep Sea AI Lab, China, 2019.

**Deep Learning for Human-Centric Image Understanding**

UBTECH, China, 2018.

Jiang Men, China, 2018.

VALSE Webinar, China, 2018.

**Facial Analytics**

OmniVision, Singapore, 2018.

National University of Singapore, 2018.

**TECHNICAL ACTIVITIES****Organizer**

Workshop on Visual Understanding of Humans in Crowd Scene, and MHP Challenges on Multi-Human Pose Estimation and Fine-Grained Multi-Human Parsing with CVPR 2018.

**Program Committee Member**

Workshop on Compact and Efficient Feature Representation Learning in Computer Vision with ECCV 2018.

**Invited Reviewer**

IJCV, T-MM, T-IFS, T-CSVT, Neurocomputing, CSSP, NIPS (one of the top 30% highest-scoring reviewers of NIPS 2018), CVPR, ICCV, ACM MM, AAAI, ICLR, ICML, UAI.

**HOBBIES**

Travel, Fitness, Mixed Martial Arts (MMA) and Brazilian Jiu-Jitsu (BJJ, Blue Belt under Prof. Leandro Thomas Issa da Silva of Evolve MMA, Singapore).

Last updated: July 13, 2019