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: Assis. Prof. Jiashi Feng, Assoc. Prof. Shuicheng Yan,
          Prof. Hengzhu Liu.

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.
Advisors: Dr. Shaopeng Dong, Prof. Mei Yuan.

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 Vi- sion 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 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 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