Jian ZHAO (Jason), Ph.D.   赵健 博士

Assistant Professor   Updated: 21/07/2021
Institute of North Electronic Equipment   zhaojian90@u.nus.edu
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Haidian District, Beijing, China 100191
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EXPERTIES & INTERESTS

Artificial Intelligence, Pattern Recognition, Machine Learning, Computer Vision, and Multimedia Analytics

PROFESSIONAL APPOINTMENTS

Institute of North Electronic Equipment, Beijing, China
Assistant Professor   07/2019-present
Tencent AI Lab, Shenzhen, China
Rhino-Bird Visiting Scholar   12/2019-12/2020
FiT DeepSea AI Lab, Tencent, Shenzhen, China
"Texpert" Research Scientist   12/2018-04/2019
Core Technology Group, Learning & Vision, Panasonic R & D Center, Singapore
Research Intern   05/2016-09/2018
China Aerospace Science and Industry Corporation, Beijing, China
Research Intern   09/2011-06/2012

EDUCATION & CAREER PREPARATION

Department of Electrical and Computer Engineering, Faculty of Engineering, National University of Singapore, Singapore
Doctor of Philosophy in *Artificial Intelligence*   01/2016-04/2019
Thesis: Deep Learning for Human-Centric Image Analysis: From Face Recognition to Human Parsing
Advisors: Assis. Prof. Jiashi Feng, Assoc. Prof. Shuicheng Yan
School of Computer, National University of Defense Technology, Changsha, Hunan, China
Master of Engineering in *Computer Science and Technology*   09/2012-12/2014
Advisor: Prof. Xucan Chen
School of Automation Science and Electrical Engineering, Beihang University, Beijing, China

Bachelor of Engineering in *Automation* 09/2008-07/2012
Advisors: Dr. Shaopeng Dong, Prof. Mei Yuan

HONORS & RRCOGNITION

[1] 2020-2022 Youth Talent Promotion Project, China Association for Science and Technology — 2021

[2] 2021-2023 Beijing Youth Talent Promotion Project, Beijing Association for Science and Technology — 2021

[3] The USERN Prize Nomination, Universal Scientific Education and Research Network (USERN) — 2021

[4] A-Level Certificate, 4th author, Activity Recognition Track, China Artificial Intelligence Competition — 2020

[5] Lee Hwee Kuan Award (Gold Award), 1st author, Pattern Recognition and Machine Intelligence Association (PREMIA) — 2019

[6] Best Student Paper Award, 1st author, ACM Multimedia Conference (ACM MM) 2018 — 2018

[7] 1st-Place Award, 1st author, MS-Celeb-1M Face Recognition Hard Set/Random Set/Low-Shot Learning Challenges with International Conference on Computer Vision (ICCV) 2017 — 2017

[8] 1st-Place Award, 1st author, National Institute of Standards and Technology (NIST) IARPA Janus Benchmark A (IJB-A) Unconstrained Face Verification/ Identification Challenges — 2017

[9] 2nd-Place Award, 1st author, Look into Person (L.I.P) Human Parsing/Pose Estimation Challenges with IEEE Conference on Computer Vision and Pattern Recognition (CVPR) 2017 — 2017

[10] 3rd-Place Award, 2nd author, MS-Celeb-1M Face Recognition Hard Set Challenge with ACM Multimedia Conference (ACM MM) 2016 — 2016

[11] Excellent Student Award (<10%), School of Computer, National University of Defense Technology — 2016

[12] Excellent Student Award (<10%), School of Computer, National University of Defense Technology — 2015

[13] Excellent Graduate Award (<2%), National University of Defense Technology — 2014

[14] Excellent Student Award (<2%), National University of Defense Technology — 2014

[15] Guanghua Fellowship (<2%), National University of Defense Technology — 2014

[16] Contribution Prize, for Engineering Implementation of Tianhe-2 Supercomputer (No.1 on Top500, 06/2013), National University of Defense Technology — 2013

[17] 3rd-Place Award, 1st author, 13th "Great Wall Information Cup" Challenge, National University of Defense Technology	2013
[18] Excellent Student Award (<10%), School of Computer, National University of Defense Technology	2013
[19] 1st-Place Award, 1st author, Big Data Processing and Information Sub-Forum of the 6th Graduate Innovation Forum, Provincial Education Department of Hunan Province	2013
[20] Excellent Graduate Award (<2%), Beihang University	2012
[21] 2nd-Place Award, 1st author, 5th Student Research Training Program (SRTP), Beihang University	2012
[22] National Endeavor Fellowship, Central Government & Beijing Government of China	2011
[23] 3rd-Place Award, 1st author, "Feng Ru Cup" Challenge, School of Automation Science and Electrical Engineering, Beihang University	2011
[24] SMC Fellowship, Beihang University	2010

TECHNICAL PUBLICATIONS

Google Scholar:
https://scholar.google.com.sg/citations?hl=en&user=zdhRJCkAAAAJ&view_op=list_works&gmla=AJsN-F4PURIx5GMQHVpprJJBjTsNC62YCHjxGsKOwVhrkZ1aJsLgBiuKPBbAgbdcE5_KNw3OnLQgOVSjlqmS6gc-6ti0M2K5o-klHgoOywFCbdaaGnpis130zvgoZFJkVfmoNKpo8Krp

Personal DBLP Page: https://dblp.org/pid/70/2932-6.html

*Corresponding Authors; Supervised Postdocs/Students/Interns; †Equal Contribution.

Journals

[1] Xiaoguang Tu, **Jian Zhao***, Qiankun Liu, Wenjie Ai, Guodong Guo, Zhifeng Li, Wei Liu, Jiashi Feng. Joint Face Image Restoration and Frontalization for Recognition. IEEE Transactions on Circuits and Systems for Video Technology (T-CSVT), 2021.

[2] Jianshu Li†, **Jian Zhao**†, Congyan Lang, Yidong Li, Yunchao Wei, Gudong Guo, Terence Sim, Shuicheng Yan, Jiashi Feng. Multi-Human Parsing With a Graph-based Generative Adversarial Model. ACM Transactions on Multimedia Computing, Communications, and Applications (T-OMM), 2021.

[3] Kai Hu, **Jian Zhao***, Yu Liu, Yukai Niu, Gang Ji. Structure-Guided Image Inpainting. Journal of Beijing University of Aeronautics and Astronautics (JBUAA), 2021.

[4] Xiaoguang Tu, Yingtian Zou, **Jian Zhao**, Wenjie Ai, Jian Dong, Yuan Yao, Zhikang Wang, Guodong Guo, Zhifeng Li, Wei Liu, Jiashi Feng. Joint Face Image Restoration and Frontalization for Recognition. IEEE Transactions on Circuits and Systems for Video

Technology (T-CSVT), 2021.

[5] Zhikang Wang, Lihuo He, Xiaoguang Tu, **Jian Zhao**, Xinbo Gao, Shengmei Shen, Jiashi Feng. Robust Video-based Person Re-Identification by Hierarchical Mining. IEEE Transactions on Circuits and Systems for Video Technology (T-CSVT), 2021.

[6] Zun Li, Congyan Lang, Liqian Liang, **Jian Zhao**, Songhe Feng, Qibin Hou, Jiashi Feng. Dense Attentive Feature Enhancement for Salient Object Detection. IEEE Transactions on Circuits and Systems for Video Technology (T-CSVT), 2021.

[7] Liqian Liang, Congyan Lang, Zun Li, **Jian Zhao**, Tao Wang, Songhe Feng. Seeing Crucial Parts: Vehicle Model Verification via A Discriminative Representation Model. ACM Transactions on Multimedia Computing, Communications, and Applications (T-OMM), 2021.

[8] **Jian Zhao**, Shuicheng Yan, Jiashi Feng. Towards Age-Invariant Face Recognition. IEEE Transactions on Pattern Analysis and Machine Intelligence (T-PAMI), 2020.

[9] **Jian Zhao**, Junliang Xing, Lin Xiong, Shuicheng Yan, Jiashi Feng. Recognizing Profile Faces by Imagining Frontal View. International Journal of Computer Vision (IJCV), 2020.

[10] Xiaoguang Tu, **Jian Zhao**, Mei Xie, Zihang Jiang, Akshaya Balamurugan, Yao Luo, Yang Zhao, Lingxiao He, Zheng Ma, Jiashi Feng. 3D Face Reconstruction from A Single Image Assisted by 2D Face Images in the Wild. IEEE Transactions on Multimedia (T-MM), 2020.

[11] Xiaoguang Tu, Zheng Ma, **Jian Zhao**, Guodong Du, Mei Xie, Jiashi Feng. Learning Generalizable and Identity-Discriminative Representations for Face Anti-Spoofing. ACM Transactions on Intelligent Systems and Technology (T-IST), 2020.

[12] Liqian Liang, Congyan Lang, Yidong Li, Songhe Feng, **Jian Zhao**. Fine-Grained Facial Expression Recognition in the Wild. IEEE Transactions on Information Forensics and Security (T-IFS), 2020.

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

[14] **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 (T-PAMI), 2018.

[15] 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 (T-IP), 2017.

[16] Weining Wang, Qi Li, **Jian Zhao**, Zhenan Sun. Multi-Caption Text-to-Face Synthesis: Dataset and Algorithm. ACM Multimedia

Conferences

Conference (ACM MM) 2021.

[17] <u>Yuqi Gong</u>, Xuehui Yu, Yao Ding, Xiaoke Peng, **Jian Zhao**, Zhenjun Han. Effective Fusion Factor in FPN for Tiny Object Detection. IEEE Winter Conference on Applications of Computer Vision (WACV) 2021.

[18] <u>Zhecan Wang</u>, **Jian Zhao**, Cheng Lu, Han Huang, Fan Yang, Lianji Li, Yandong Guo. Learning to Detect Head Movement in Unconstrained Remote Gaze Estimation in the Wild. IEEE Winter Conference on Applications of Computer Vision (WACV) 2020.

[19] Fang Zhao, Shengcai Liao, Guosen Xie, **Jian Zhao**, Kaihao Zhang, Ling Shao. Unsupervised Domain Adaptation with Noise Resistible Mutual-Training for Person Re-identification. European Conference on Computer Vision (ECCV) 2020.

[20] **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).

[21] **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).

[22] 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.

[23] **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.

[24] **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).

[25] **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 Award).

[26] Fang Zhao†, **Jian Zhao**†, Shuicheng Yan, Jiashi Feng. Dynamic Conditional Networks for Few-Shot Learning. European

Conference on Computer Vision (ECCV) 2018.

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

[28] 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.

[29] **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 (NeurIPS) 2017.

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

[31] 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).

[32] 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. (Oral).

Workshops

[33] **Jian Zhao**, Jianshu Li, Xuecheng Nie, Yunpeng Chen, Zhecan Wang, Shuicheng Yan, Jiashi Feng. Self-Supervised Neural Aggregation Networks for Human Parsing. IEEE International Conference on Computer Vision and Pattern Recognition (CVPR) 2017 Workshop on Visual Understanding of Humans in Crowd Scene.

[34] 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. IEEE International Conference on Computer Vision (ICCV) 2017 Workshop on MS-Celeb-1M Challenge.

[35] Zhecan Wang†, **Jian Zhao**†, Yu Cheng, Shengtao Xiao, Jianshu Li, Fang Zhao, Jiashi Feng, Ashraf Kassim. Conditional Dual-Agent GANs for Photorealistic and Annotation Preserving Image Synthesis. British Machine Vision Conference (BMVC) 2017 Workshop on FaceHUB.

[36] 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. IEEE International Conference on

Computer Vision (ICCV) 2017 Workshop on MS-Celeb-1M Challenge.

[37] 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. IEEE International Conference on Computer Vision and Pattern Recognition (CVPR) 2017 Workshop on First Faces in-the-wild Challenge.

INVITED TALKS		
	人工智能给网络空间带来的机遇与挑战 • 2020 上海数字创新大会 Panel Discussion, Shanghai, China	2020
	奔涌吧后浪：从 PhD 到助理教授身份转变 • 将门 ECCV 2020 鲜声夺人云际会 Panel Discussion, Virtual	2020
	Deep Learning for Human-Centric Image Analysis: From Face Recognition to Human Parsing	
	• Invited by Prof. Jimin Xiao, Xi'an Jiaotong-Liverpool University, China	2020
	•Invited by Prof. Congyan Lang, Beijing Jiaotong University, China	2019
	• Invited by Dr. Jingtuo Liu, Baidu, China	2019
	•Invited by Prof. Ran He, Center for Research on Intelligent Perception and Computing, National Laboratory of Pattern Recognition, Institute of Automation, Chinese Academy of Sciences, China	2019
	• Peng Cheng Laboratory (PCL) 2019 Overseas Young Scientist Forum, Shenzhen, China	2019
	• Invited by Assoc. Prof. Si Liu, 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 Tech Talk, Shenzhen, China	2019
	Understanding Humans in Crowded Scenes: Deep Nested Adversarial Learning and A New Benchmark for Multi-Human Parsing • Vision And Learning SEminar (VALSE) 2019 Spotlight Talk, Hefei, Anhui, China	2019
	Deep Learning for Human-Centric Image Understanding	
	• UBTECH Tech Talk, Shenzhen, China	2018
	• Invited Keynote by Jiang Men, Virtual	2018
	• VALSE Webinar 18-26 Tech Talk, Virtual	2018
	Facial Analytics	
	• OmniVision Tech Talk, Singapore	2018

	• "Launch of NUS new Vision, Mission and Values", 2018 National University of Singapore, Singapore
PROJECT & GRANT EXPERIENCE	[1] Sole PI Awarded by CAST, 2020-2022 Towards Unconstrained Human-centric Image Understanding: from Face Recognition to Human Parsing [2] Sole PI Awarded by BAST, 2021-2023 Unconstrained Human-centric Image Understanding [3] Sole PI Awarded by NSFC, 2021-2023 Youth Program of National Natural Science Foundation of China (under grant 62006244): From Perception to Understanding: Towards Deep Adversarial Learning and Neural Network Architecture Search based Unconstrained Face Recognition [4] Sole PI Awarded by Tencent AI Lab, 2019-2020 Tencent AI Lab Rhino-Bird Visiting Scholars Program: Towards Deep Adversarial Learning and Neural Network Architecture Search based Unconstrained Face Recognition [5] Sole PI Awarded by CSC, 2015-2020 National Construction of High-Level University Public Graduate Project (under grant 201503170248): for pursuing Ph.D. Degree at National University of Singapore

**PROFESSIONAL
SERVICES**
	Senior Area Chair
	 • Vision And Learning SEminar (VALSE)
	Committee Member
	 •Big Data and Vision Division, China Society of Image and Graphics
	(CSIG-BVD)
	Member of the Board of Directors
	 • Beijing Society of Image and Graphics (BSIG)
	Guest Editor
	 • Pattern Recognition Letters (PRL) Special Issue on Recent
	Advances in Deep Learning Model Security
	 • Electronics Special Issue on Multimedia Content Analysis,
	Management and Retrieval: Trends and Challenges
	Invited Reviewer
	 • Journals
	   NSFC, T-PAMI, IJCV, T-MM, T-IFS, T-CSVT, Neurocomputing,
	   T-CDS, T-AFFC, T-HMS, KNOSYS, CSSP, JVCI, GVC, IMAVIS, ESWA,
	   INFFUS
	 • Conferences
	   NeurIPS (one of the top 30% highest-scoring reviewers of
	   NeurIPS 2018), CVPR, ICCV, ACM MM, AAAI, ICLR, ICML, ICME,
	   ACCV, UAI, FG
	General Chair

• The Challenge on Unconstrained Face recognition, Suspicious Object Recognition, and Special Behavior Recognition

Chair
• The 1st Anti-UAV Workshop & Challenge with CVPR 2020
• The 2nd Anti-UAV Workshop & Challenge with ICCV 2021

Presentation Chair
• The CAAI International Conference on Artificial Intelligence (CICAI) 2021

Session Chair
• The ECCV 2020 China Pre-Conference

Co-Chair
• The RLQ-TOD Workshop & Challenge with ECCV 2020
• The L.I.P Workshop & MHP Challenge with CVPR 2018

Member
• IEEE, CCF, CAAI, CSIG, CSIG-BVD, BSIG

VALSE Webinar 21-25: Invited Talk	2021

•对抗环境下的深度合成和鉴别, Prof. Ran He, Institute of Automation, Chinese Academy of Sciences, China

VALSE Webinar 21-02: Human-Centric Vision Techniques	2021

• The Promises of Synthetic Data, Assoc. Prof. Liang Zheng, Australian National University, Australia
• Human Motion Capture from RGB Videos, Prof. Xiaowei Zhou, Zhejiang University, Hangzhou, Zhejiang, China

VALSE Webinar 20-24: Visual Generation and Synthesis	2020

ORGANIZED TALKS/SEMINARS

• Dual Variational Generation for Data-Limited Face Analysis, Dr. Yibo Hu, JD AI Research, Beijing, China
•Latent Semantics in Deep Generative Models, Assist. Prof. Bolei Zhou, The Chinese University of Hong Kong, Hong Kong, China

VALSE Webinar 20-06: Face-based Human Understanding: beyond FR	2020

• Beyond Face Recognition: Remote Physiological Signal Sensing, Assoc. Prof. Hu Han, Institute of Computing Technology, Chinese Academy of Sciences, Beijing, China
• 智能微表情分析：挑战与趋势, Prof. Xiaopeng Hong, Xi'an Jiaotong University, Xi'an, Shanxi, China

TEACHING EXPERIENCE

Graduate Assistant	2016-2017

EE2024, PROGRAMMING FOR COMPUTER INTERFACES
National University of Singapore

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)