



ZHANG KAIPENG

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Research Interest



Face analysis



Few-shot learning



Network architecture



Active learning



Incremental learning



Selected Honors

- 5500+ Google Scholar Citations
- 4000+ Github Stars
- MSRA fellowship nomination
- JSPS Research Fellowship
- 1st Place, DFW Challenge, CVPR
- 1st Place, LAP Challenge, CVPR
- 1st Place, EmotiW Challenge, ICMI



About Me

I am a third-year Ph.D. student at The University of Tokyo. Before coming to UTokyo, I received my M.S. degree from National Taiwan University and B.E. degree from Donghua University.

I did high-impact works especially for face analysis and metric learning, and they received over **5500 citations** and **4000 GitHub Stars**. Besides, I won some **competitions** in top conferences. I also was awarded **JSPS Research Fellowship**, the top fellowship for Ph.D. students in Japan.

I serve as a senior PC member for IJCAI and reviewer/PC member for most top machine learning/computer vision conferences and journals.

I have rich industrial experience in developing AI-related products. I was a researcher in SenseTime and an algorithm consultant in ULSee. I also did research internships at MSRA, Tencent, and MMLAB of SIAT.

"Think like an amateur, do as an expert."

-by Takeo Kanade (金出武雄)



Education

2019.04-2022.03	The University of Tokyo	Ph.D.
Graduate School of Information Science and Technology supervised by Prof. Yoichi Sato		
2016.09-2018.08	National Taiwan University	M.S.
Graduate Institute of Networking and Multimedia supervised by Prof. Winston Hsu.		
2012.09-2016.07	Donghua University	B.E.
Computer Networking (Excellent Engineer Program)		



Experience

2019.04-2022.03	The University of Tokyo
Ph.D. Student & JSPS Fellowship Researcher (日本学术振兴会特别研究员) Advisor: Prof. Yoichi Sato	
<ul style="list-style-type: none">PI: Incremental active learning for semantic segmentation (JSPS Project)Context aggregation and feature super-resolution modules for real-time semantic segmentation. ICRA 2020	
2020.09-2021.03	Tencent
Research intern in AI Lab & TEG AI Advertisement Center Mentor: Dr. Zhifeng Li and Dr. Wei Liu	
<ul style="list-style-type: none">Mixture of Experts (MoE) -based huge neural networksAI in advertisement (focus on advertisement content analysis)	



Academic Service

- Senior PC member of IJCAI
- PC member/Reviewer of NeurIPS, ICLR, AAAI, ECCV, ICCV, CVPR, BMVC, ACCV, WACV
- Reviewer of TPAMI, TIP, TNNLS, TCSVT, TMM, Neurocomputing, SPL, and Pattern Recognition



Masterpiece

- MTCNN
One of the most influential works in the field of face detection
- Center loss
One of the most influential works in the field of face recognition and metric learning



Experience



2018.09-2019.03

SenseTime

Researcher

- (As a core member) Build an incremental city-level face recognition learning and recognition system for ShenZhen Security Bureau.

2018.01-2018.07

Microsoft Research Asia

Research intern

Mentor: Dr. Dong Chen

- Large-scale face recognition for NIST FRVT

2016.09-2018.08

National Taiwan University

Master student & Research assistant (supported by MediaTek)

Advisor: Prof. Winston Hsu

- Ultra-low resolution face images super-resolution via super-identity loss (ECCV 2018) and facial attributes assistance (CVPRW 2018).
- Virtual try-on shoe. ACCV 2018
- Disguised face recognition in the wild.
1st Place of Disguised Faces in the Wild Challenge, CVPR 2018.
- Group-level emotion recognition in the wild.
1st Place of EmotionW 2017, 2nd Place of EmotionW 2018 and 2019
- Engagement Prediction
3rd Place of EmotionW 2019

2016.10-2018.03

ULSee Technology

Algorithm consultant

- Professional consultants in developing algorithms and frameworks for face analysis products.

2017.07-2017.09

Tencent

Research intern in AI Lab

Mentor: Dr. Zhifeng Li and Dr. Wei Liu

- Inside-cascaded CNN for real-time face detection. ICCV 2017
- MTCNN (Pro) for real-time face detection and alignment.

2015.08-2016.08

MMLab of SIAT

Visiting student

Advisor: Prof. Zhifeng Li and Prof. Yu Qiao

- Center loss for discriminative feature learning. ECCV 2016 & IJCV
One of the most influential face recognition/metric learning works.
The most cited face recognition paper published in recent five years.
The 21st most cited paper in the history of ECCV (1990-2021)
- A multi-task cascaded CNN for face detection (a.k.a MTCNN). IEEE SPL
One of the most influential face detection works.
The most cited face detection paper published in recent five years.
The 2nd most cited paper in the history of IEEE SPL (1994-2021)
- Coarse-to-fine training for CNN-based facial attributes recognition
1st Place ChaLearn Looking at People Challenge, CVPR 2016.

Regular paper (* indicates equal contribution)

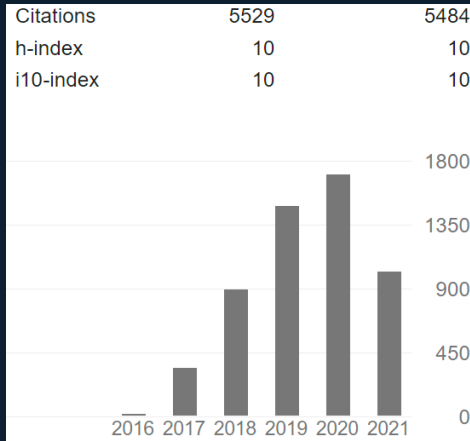
- ⊙ As the first author. About mixture of experts. Under review.
- ⊙ As the first author. About few-shot segmentation. Under review.
- ⊙ As a co-author. About Bayer filter. Under review.
- ⊙ As a co-author. About Masked Face Recognition. Under review.
- ⊙ Zhanpeng Zhang, Kaipeng Zhang. FarSee-Net: Real-Time Semantic Segmentation by Efficient Multi-scale Context Aggregation and Feature Space Super-resolution. ICRA 2020.
- ⊙ Yandong Wen*, Kaipeng Zhang*, Zhifeng Li and Yu Qiao. A Comprehensive Study on Center Loss for Deep Face Recognition., IJCV 2019. **(a.k.a Center Loss)**
- ⊙ Kaipeng Zhang, Zhanpeng Zhang, Chia-Wen Cheng, Winston Hsu, Yu Qiao, Wei Liu and Tong Zhang. Super-Identity Convolutional Neural Network for Face Hallucination. ECCV 2018.
- ⊙ Chao-Te Chou, Cheng-Han Lee, Kaipeng Zhang, Hu Cheng Lee and Winston Hsu. Pose Invariant Virtual Try-On Shoe with Conditional Image Completion. ACCV 2018.
- ⊙ Cheng-Han Lee, Kaipeng Zhang, Hu Cheng Lee, Chia-Wen Cheng and Winston Hsu. Attribute Augmented Convolutional Neural Network for Face Hallucination. CVPRW 2018.
- ⊙ Kaipeng Zhang, Zhanpeng Zhang, Hao Wang, Zhifeng Li, Yu Qiao and Wei Liu. Detecting Faces Using Inside Cascaded Contextual CNN. ICCV 2017.
- ⊙ Yandong Wen, Kaipeng Zhang, Zhifeng Li and Yu Qiao. A Discriminative Deep Feature Learning Approach for Face Recognition. ECCV 2016. **(a.k.a Center Loss)**
- ⊙ Kaipeng Zhang, Zhanpeng Zhang, Zhifeng Li and Yu Qiao. Joint Face Detection and Alignment using Multi-task Cascaded Convolutional Networks. IEEE SPL 2016. **(a.k.a MTCNN)**

Competition paper


- ⊙ Guo, Da, Kai Wang, Jianfei Yang, Kaipeng Zhang, Xiaojiang Peng, and Yu Qiao. Exploring Regularizations with Face, Body and Image Cues for Group Cohesion Prediction. ICMI 2019.
- ⊙ Wang, Kai, Jianfei Yang, Da Guo, Kaipeng Zhang, Xiaojiang Peng, and Yu Qiao. Bootstrap model ensemble and rank loss for engagement intensity regression. ICMI 2019.
- ⊙ Kaipeng Zhang, Ya-Liang Chang and Winston Hsu. Deep Disguised Faces Recognition. CVPRW 2018
- ⊙ Kai Wang, Xiaoxing Zeng, Jianfei Yang, Debin Meng, Kaipeng Zhang, Xiaojiang Peng and Yu Qiao. Cascade Attention Networks for Group Emotion Recognition with Face, Body and Image Cues. ICMI 2018.
- ⊙ Lianzhi Tan, Kaipeng Zhang, Kai Wang, Xiaoxing Zeng, Xiaojiang Peng and Yu Qiao. Group Emotion Recognition with Individual Facial Emotion CNNs and Global Image Based CNNs. ICMI 2017.
- ⊙ Kaipeng Zhang, Lianzhi Tan, Zhifeng Li, Yu Qiao. Gender and Smile Classification using Deep Convolutional Neural Networks. CVPRW 2016.




Google Scholar



Github Projects


ydwen/caffe-face
 Forked from BVLC/caffe
 This branch is developed for deep face recognition

● C++
☆ 1.2k
🔗 303


MTCNN_face_detection_alignment
 Joint Face Detection and Alignment using Multi-task Cascaded Convolutional Networks

● MATLAB
☆ 2.6k
🔗 1k



Interest

Traveling	
Reading	
Vlog	
Tabletop game	
Ping-pong	
ACG	
Cooking	



Honors & Awards

Competitions

As a primary contributor

Disguised Faces in the Wild, CVPR	1 st Place 2018
(Awarded by IARP within ODNI 美国国家情报总监办公室)	
Group Emotion Recognition, EmotiW, ICMI Grand Challenge	1 st Place 2017
Accessories Classification, ChaLearn LAP, CVPR	1 st Place 2016
Smile and Gender Classification, ChaLearn LAP, CVPR	1 st Place 2016

As a secondary contributor

Group Cohesion Prediction, EmotiW, ICMI Grand Challenge,	2 nd Place 2019
Engagement Prediction, EmotiW, ICMI Grand Challenge,	3 rd Place 2019
Group Emotion Recognition, EmotiW, ICMI Grand Challenge,	2 nd Place 2018

Others

◎ JSPS Research Fellowships DC2	2020
◎ Collaborative Research Program, UTokyo	2019
◎ Scholarships from Foundation's Support Fund, UTokyo	2019
◎ MSRA Fellowship Nomination Award	2019
◎ Outstanding Undergraduate Thesis, Donghua University	2016



Academic Service

- ◎ Senior program committee member
IJCAI
- ◎ Program committee member/Reviewer
NeurIPS, ICLR, AAI, ECCV, ICCV, CVPR, BMVC, ACCV, and WACV
- ◎ Reviewer
TPAMI, TIP, TIFS, TNNLS, TCSVT, TMM, Neurocomputing, SPL, and PR