Xin Ma

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Monash University
Doctor of Philosophy Computer science, Computer vision

Highly-motivated PhD student in Monash-NTU-Vision Group led by Prof. Jianfei Cai at Monash University. My research interest lies in image super-resolution, image inpainting, generative adversarial network, model compression, etc. Currently, several papers have been published to international conferences or journals. In terms of practical application, several national invention patents have been applied.

Education

Present Sep 2022	Faculty of Information Technology, Monash University Ph.D. Student in Computer Science
Jun 2021 Sep 2018	School of Artificial Intelligence, University of Chinese Academy of Sciences Master's Degree in Computer Technology
Jun 2018 Sep 2014	School of Electrical and Information Engineering, JiangSu University Bachelor's Degree in Applied Electronic Information Engineering

Internships/Works

Aug 2020 – Apr 2020
Agorithm engineer @ Meituan •Vision Intelligence Center (**Inter**)
- Research on Image Dewatermarking Algorithm: An image dewatermarking algorithm was proposed based on attention mechanism and self-supervised learning. The algorithm is now launched on Meituan and used in Meituan takeaway dewatermarking system. Related work was accepted by ICPR 2020 and selected as an oral presentation.

Sep 2022 – Jun 2021
Algorithm engineer @ Meituan •Vision Intelligence Department (**Full-time Work)**
- Research on model compression: we developed a set of tools to support pruning and quantification of deep learning models, which can help developers quickly deploy models to edge devices without accuracy drop and accelerate the inference speeds of models. One paper was accepted by CVPR 2022 during this period.

Present – Dec 2022
Researcher @ Shanghai Artificial Intelligence Laboratory (**Intern**)
- Research on generative models.

Publications

—— Published Papers ——

- **Xin Ma**, Xiaoqiang Zhou, Huaibo Huang, Zhenhua Chai, Xiaolin Wei, Ran He. "Free-Form Image Inpainting via Contrastive Attention Network ", International Conference on Pattern Recognition (**ICPR**), 2020 (**oral** 5%), **CCF-C**
- **Xin Ma**, Xiaoqiang Zhou, Huaibo Huang, Gengyun Jia, Zhenhua Chai, Xiaolin Wei. "Contrastive Attention Network with Dense Field Estimation for Face Completion", Pattern Recognition (**PR**), 2021
- Yuhe Ding*, **Xin Ma***, Mandi Luo, Aihua Zheng, Ran He. "Unsupervised Contrastive Photo-to-Caricature Translation based on Auto-distortion" International Conference on Pattern Recognition (**ICPR**), 2020 (* equal contribution), **CCF-C**
- Mandi Luo, **Xin Ma**, Zhihang Li, Jie Cao, Ran He. "Partial NIR-VIS Heterogeneous Face Recognition with

Automatic Saliency Search", IEEE Transactions on Information Forensics and Security (**T-IFS**), 2021, **Q1**
- Mandi Luo, Jie Cao, **Xin Ma**, Xiaoyu Zhang, Ran He. "FA-GAN: Face Augmentation GAN for deformation-invariant face recognition", IEEE Transactions on Information Forensics and Security (**T-IFS**), 2021, **Q1**
- Huanyu Wang, Junjie Liu, **Xin Ma**, Zhenhua Chai, Jianxin Wu. "Compressing Models with Few Samples: Mimicking then Replacing", Computer Vision and Pattern Recognition (**CVPR**), 2022, **CCF-A**
- Gengyun Jia, Meisong Zheng, Chuanrui Hu, **Xin Ma**, Yuting Xu, Luoqi Liu, Yafeng Deng, Ran He, "Inconsistency-aware Wavelet Dual-branch Network for Face Forgery Detection", IEEE Transactions on Biometrics, Behavior, and Identity Science (**T-BIOM**), 2021,
- Mandi Luo*, **Xin Ma***, Huaibo Huang, Yi Li, Ran He. "Style-based Attentive Network for Real-World Face Hallucination", Chinese Conference on Pattern Recognition and Computer Vision (**PRCV**), 2022, **CCF-C**

—— Preprints ——

- **Xin Ma**, Xiaoqiang Zhou, Huaibo Huang, Zhenhua Chai, Xiaolin Wei, Ran He. "Uncertainty-Aware Image Inpainting with Adaptive Feedback Network", Plan to submit it to T-IFS
- Mandi Luo, Jie Cao, **Xin Ma**, Chen Gao, Si Liu, Ran He. "Depth-aware Human Interaction Manipulation with Imitative Contrastive Learning"
- Gengyun Jia, Chaoyou Fu, **Xin Ma**, Ran He. "Uncertainty Aware Image Cropping with Energy-based Models"

Patent Applications

- An image completion method and device based on attention mechanism, Patent Number: CN112184582A
- A method and system with attention mechanism for human pose estimation, Patent Number: CN112149563A (second inventor)
- An image restoration method based on attention mechanism, Patent Number: CN111915522A
- A method for automatic enhancement of image data, Patent Number: CN111882492A (second inventor)
- An image restoration method based on generative adversarial network, Patent Number: CN111815523A
- A generative adversarial network with disentangled representation learning for face image frontalization, Patent Number: CN111428667A
- A face image super-resolution method based on structural prior, Patent Number: CN111080521A

Competences & Languages

Programming Python, C/C++, Matlab, Latex, Pytorch, Linux
Languages **English** —CET-6; PTE 62

Awards & Certificates

2021 ICCV2021 Low Power Computer Vision Challenge: the second place
2021 Merit Student of University of Chinese Academy of Sciences
2017 College Student Innovation Project
2016 Excellence Award in Electronic Design Competition