Xin Ma

📞 189-8048-1629   @ xin.ma1@monash.edu
🏛 Monash University   🎓 Doctor of Philosophy

Highly-motivated Ph.D. student 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 in 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

💼 Work Experiences

Present Dec 2022	Researcher @ Shanghai Artificial Intelligence Laboratory (**Inter**) ❯ Research on generative models: mainly studies the generative models, such as diffusion models, and applies them to videos, faces, and other tasks.
Sep 2022 Jun 2021	Algorithm engineer @ Meituan •Vision Intelligence Department (**Full-time Work**) ❯ Research on model compression: A model compression tool has been developed to assist developers in rapidly deploying models to edge devices without compromising model accuracy, while simultaneously enhancing model inference speed. This tool has been extensively implemented across various businesses at Meituan. One paper was accepted by CVPR 2022 during this period.
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.

📄 Publications

❯ Uncertainty-Aware Image Inpainting with Adaptive Feedback Network
Xin Ma, Xiaoqiang Zhou, Huaibo Huang, Gengyun Jia, Yaohui Wang, Xinyuan Chen, Cunjian Chen
Expert Systems with Applications (ESWA), 2023, Q1
❯ Compressing Models with Few Samples: Mimicking then Replacing
Huanyu Wang, Junjie Liu, **Xin Ma**, Zhenhua Chai, Jianxin Wu
Computer Vision and Pattern Recognition (CVPR), 2022, CCF-A
❯ Style-based Attentive Network for Real-World Face Hallucination
Mandi Luo*, **Xin Ma***, Huaibo Huang, Yi Li, Ran He
Chinese Conference on Pattern Recognition and Computer Vision (PRCV), 2022, CCF-C
❯ Contrastive Attention Network with Dense Field Estimation for Face Completion

Xin Ma*, Xiaoqiang Zhou*, Huaibo Huang, Gengyun Jia, Zhenhua Chai, Xiaolin Wei
Pattern Recognition (PR), 2021, Q1

> Partial NIR-VIS Heterogeneous Face Recognition with Automatic Saliency Search
Mandi Luo, **Xin Ma**, Zhihang Li, Jie Cao, Ran He
IEEE Transactions on Information Forensics and Security (T-IFS), 2021, Q1

> FA-GAN: Face Augmentation GAN for deformation-invariant face recognition
Mandi Luo, Jie Cao, **Xin Ma**, Xiaoyu Zhang, Ran He
IEEE Transactions on Information Forensics and Security (T-IFS), 2021, Q1

> Inconsistency-aware Wavelet Dual-branch Network for Face Forgery Detection
Gengyun Jia, Meisong Zheng, Chuanrui Hu, **Xin Ma**, Yuting Xu, Luoqi Liu, Yafeng Deng, Ran He
IEEE Transactions on Biometrics, Behavior, and Identity Science (T-BIOM), 2021

> Free-Form Image Inpainting via Contrastive Attention Network
Xin Ma, Xiaoqiang Zhou, Huaibo Huang, Zhenhua Chai, Xiaolin Wei, Ran He
International Conference on Pattern Recognition (ICPR), 2020 (**oral** 5%), CCF-C

> Unsupervised Contrastive Photo-to-Caricature Translation based on Auto-distortion
Yuhe Ding*, **Xin Ma***, Mandi Luo, Aihua Zheng, Ran He
International Conference on Pattern Recognition (ICPR), 2020, CCF-C

⚛ Granted Patents

> Attention-mechanism-based image completion method and device, CN112184582B
> Image completion method based on uncertainty estimation, CN112686817B
> Image super-resolution method of deep neural network fusing mutual information, CN110211035B
> Cartoon style image conversion model training method, image generation method and device, CN112232485B

⚲ Awards & Certificates

2022   PRCV2022 Aerial-Ground Intelligent Unmanned System Environment Perception Challenge, the second place
2021   ICCV2021 Low Power Computer Vision Challenge: the second place
2021   Merit Student of University of Chinese Academy of Sciences

🔧 Competences & Languages

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

马 鑫

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🏛 蒙纳士大学 🎓 计算机科学 • 博士

蒙纳士大学在读博士。研究兴趣为机器学习和模式识别，主要关注于图像超分辨率、图像补全，生成式模型，模型压缩等。目前以向国际会议或期刊发表多篇论文。在实际应用方面，目前已申请多项国家发明专利。

🎓 教育背景

现在 2022.09	**蒙纳士大学 • 信息技术系** 计算机科学 • 博士
2021.06 2018.09	**中国科学院大学 • 人工智能学院** 计算机技术 • 硕士
2018.06 2014.09	**江苏大学 • 电气信息工程学院** 电子信息技术 • 学士

💼 工作经历

现在 2022.12	（实习）见习研究员 @ 上海人工智能实验室 • 通用视觉组 ➤ **生成模型:** 主要研究生成模型，比如 diffusion models，并将其应用在视频，人脸等任务中。
2022.09 2021.07	（全职）算法工程师 @ 美团 • 视觉智能中心 ➤ **模型压缩:** 在此期间开发了一个模型压缩工具，可以帮助开发人员在不影响模型精度的情况下快速地将模型部署到边缘设备上，并提高模型推理速度。该工具已广泛应用于美团的各种业务中。同时在 CVPR2022 上合作发表了一篇小样本的模型压缩方法。
2020.08 2020.04	（实习）深度学习算法研发 @ 美团 • 基础视觉组 ➤ **图像去水印算法研究:** 基于注意力机制和自监督学习，设计了一种高质量的图像去水印算法。该算法现已上线美团网，用于美团外卖去水印系统。相关工作已被 ICPR2021 接受，并选为 oral。

📄 论文发表

➤ Uncertainty-Aware Image Inpainting with Adaptive Feedback Network
Xin Ma, Xiaoqiang Zhou, Huaibo Huang, Gengyun Jia, Yaohui Wang, Xinyuan Chen, Cunjian Chen
Expert Systems with Applications (ESWA), 2023, Q1

➤ Compressing Models with Few Samples: Mimicking then Replacing
Huanyu Wang, Junjie Liu, **Xin Ma**, Zhenhua Chai, Jianxin Wu
Computer Vision and Pattern Recognition (CVPR), 2022, CCF-A

➤ Style-based Attentive Network for Real-World Face Hallucination
Mandi Luo*, **Xin Ma***, Huaibo Huang, Yi Li, Ran He
Chinese Conference on Pattern Recognition and Computer Vision (PRCV), 2022, CCF-C

➤ Contrastive Attention Network with Dense Field Estimation for Face Completion
Xin Ma*, Xiaoqiang Zhou*, Huaibo Huang, Gengyun Jia, Zhenhua Chai, Xiaolin Wei

Pattern Recognition (PR), 2021, Q1

> Partial NIR-VIS Heterogeneous Face Recognition with Automatic Saliency Search
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> FA-GAN: Face Augmentation GAN for deformation-invariant face recognition
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> Inconsistency-aware Wavelet Dual-branch Network for Face Forgery Detection
> Gengyun Jia, Meisong Zheng, Chuanrui Hu, **Xin Ma**, Yuting Xu, Luoqi Liu, Yafeng Deng, Ran He
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> Unsupervised Contrastive Photo-to-Caricature Translation based on Auto-distortion
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> International Conference on Pattern Recognition (ICPR), 2020, CCF-C

⚛ 专利授权

> 一种基于注意力机制的图像补全方法及装置，CN112184582B
> 一种基于不确定性估计的图像补全方法，CN112686817B
> 融合互信息的深度神经网络的图像超分辨率方法，CN110211035B
> 漫画风格图像转换模型的训练方法、图像生成方法及装置，CN112232485B

🏵 获奖及证书

2022　PRCV2022 Aerial-Ground Intelligent Unmanned System Environment Perception Challenge, 第二名

2021　ICCV2021 Low Power Computer Vision Challenge，第二名

2021　中国科学院大学三好学生

🔧 技能和语言

编程　Python, Matlab, C++, Latex, Pytorch

语言　**英语** － 大学英语六级，PTE 62