Yunqi Miao

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I am a Research Scientist at Huawei Noah's Ark lab in London. My research lies in vision-based human behavior analysis, including crowd counting, unsupervised person re-identification, and cross-modality person re-identification. Currently, I have been focusing on blind face restoration, personalized face generation and editing via text-to-image (T2I) models. I have made publications at top conferences (CVPR, NeurIPS, AAAI) and leading journals (IEEE TIP, IEEE TIFS) in the field of computer vision and AI. ***h-index: 7, citations: 268.*** (15th of May, 2024)

Education & Award

- **University of Warwick** — Coventry, UK
  *PhD. - **Chancellor's schlr.** - Advisor: Prof. Jungong Han.* — *Jan. 2019 – June 2023*
- **Beihang University** — Beijing, China
  *Master of Automation Science and Electrical Engineering - **First-class schlr.*** — *Sept. 2016 – Jan. 2019*
- **University of Electronic Science and Technology of China (UESTC)** — Beijing, China
  *Bachelor of Control Science and Engineering - **National schlr.** & **Outstanding grads*** — *Sept. 2012 – July 2016*

Selected Publications

- **Miao Y**, *et al.,* WaveFace: authentic face restoration with efficient frequency recovery. *CVPR24.*
- **Miao Y**, *et al.,* Confidence-guided centroids for unsupervised person re-identification. *IEEE Transactions on Information Forensics and Security (TIFS), 2024.*
- **Miao Y**, *et al.,* On exploring pose estimation as an auxiliary learning task for visible-infrared person re-identification. *Neurocomputing, 2023.*
- **Miao Y***, Lattas A*, *et al.,* Physically-based face rendering for NIR-VIS face recognition. *NeurIPS22.*
- Huang N, Liu J, **Miao Y**, *et al.,* Deep learning for visible-infrared cross-modality person re-identification: A comprehensive review. *Information Fusion, 2022.*
- **Miao Y**, *et al.,* Learning transformation-invariant local descriptors with low-coupling binary codes. *IEEE Transactions on Image Processing (TIP), 2021.*
- **Miao Y**, *et al.,* Shallow feature-based dense attention network for crowd counting. *AAAI20.*
- **Miao Y**, *et al.,* ST-CNN: Spatial-temporal convolutional neural network for crowd counting in videos. *Pattern Recognition Letters, 2019.*
- Wang H and **Miao Y**. Convolutional attention in ensemble with knowledge transferred for remote sensing image classification. *IEEE Geoscience and Remote Sensing Letters (GRSL), 2018.*
- Wang H and **Miao Y**. The random boosting ensemble classifier for land-use image classification. *Multimedia Tools and Applications, 2018.*

Experience

- **Huawei London Research Center** — London, UK
  Research scientist — *Sept. 2023 -*
  - **Personalized content synthesis**: Provided users with personalized AI portraits and customized stylization.
  - **Blind face restoration (project page)**: Developed a facial image restoration framework that enhances the quality of images with unknown and complex degradations.
- **Huawei London Research Center** — London, UK
  Research intern — *Dec. 2021 - Sept. 2023*
  - **Face attribute analysis**: Provided users with customized facial editing according to their facial attributes.
  - **NIR-VIS face recognition (project page)**: Developed a cross-modal face recognition system, which enables identity retrieval across near-infrared (NIR) and visible (VIS) modality.

- **Yepic AI** London, UK
  Computer vision research intern *July 2021 - Nov. 2021*
  - **Head pose estimation**: Developed a framework for accurate estimating the head pose of avatars.
  - **Eye movement modeling**: Developed a framework enabling avatars to simulate realistic eye movements of input humans.
- **MOMO Tech.** Beijing, China
  Deep learning research intern *Feb. 2018 - Sept. 2018*
  - **Image quality assessment**: Assessed image quality according to image resolution, lighting conditions, and artifact detection.
  - **User searching and matching**: Developed a framework to retrieve the most similar facial images to given users from a large-scale database.

Skills

- **Programming Languages:** Python, C/C++, C#, MATLAB
- **Deep Learning Frameworks:** PyTorch, Tensorflow
- **Computer Vision Libraries:** OpenCV, Dlib, sklearn, diffusers