Zinuo Li

1273180880lzn@gmail.com
+86-138-2427-6641
ResearchGate
GoogleScholar
Orcid

EDUCATION

Huizhou University, Computer Science, *B.Eng*   2019.09 - Current

- Current GPA 83.1/100, with average GPA 93.3/100 in last two years (top 3%). Predicted final GPA 85/100.
- Teaching Assistant of Linux System in Huizhou University.
- IELTS 7.0.
- National scholarship awards.

University of Macao, Research Assistant   2021.09 - Current

- Focusing on Computer Vision

Chinese Academy of Sciences, Research Assistant   2022.10 - Current

- Shenzhen Institute of Advanced Technology(SIAT), Medical Imaging

RESEARCHES

- **Current Research:** Low-level Computer Vision
- **Interested Research:** Computer Vision, Multimodal, Medical Imaging, etc.

SELECTED PUBLICATIONS (*EQUAL CONTRIBUTION)

A Large-scale Film Style Dataset for Learning Multi-frequency Driven Film Enhancement

Xuhang Chen (Supervisor), **Zinuo Li***, Chi-Man Pun and Shuqiang Wang*
IJCAI23[C], CCF-A

- We are the first to construct a large-scale high-quality dataset with 3 groups of different film style and a total of 5,285 high-quality images, called FilmSet.
- To learn the features in FilmSet properly, we present FilmNet, a novel multi-frequency framework based on Laplacian Pyramid for simulating film styles and subsequently retouching normal photos.
- We demonstrate our model is superior to the state-of-the-art methods via extensive experiments on our dataset and other publicly accessible benchmark datasets.
- Paper is available in arXiv

SMViT: Semi-supervised Muti-scale Driven Vision Transformer for Underwater Image Enhancement

***Zinuo Li**, Xuhang Chen, Shenghong Luo, Chi-Man Pun and Shuqiang Wang*
ACMMM23 in submission[C], CCF-A

- We introduce a Mean-Teacher based Semi-supervised Transformer network for enhancing images accross multiple frequencies
- We propose a Nonlinear Frequency-aware Attention mechanism and a Multi-scale Fusion Feed-forward network in Transformer blocks, which have been demonstrated to gain better performance.
- Experiments using full-reference and non-reference underwater benchmarks demonstrate that our method outperforms SOTA.

High-resolution Document Shadow Removal via A Large-scale Real-world Dataset and A Frequency-aware Shadow Erasing Net

Zinuo Li, Xiaodong Cun*, Xuhang Chen, Chi-Man Pun*
ICCV23 in submission[C], CCF-A

- We acquire over 7k couples of high-resolution (2462×3699) images of real-world documents with various samples under different lighting circumstances, which is 10 times larger than existing datasets.
- We decouple the high-resolution images in the frequency domain, where we can learn the low-frequency details and high-frequency boundary individually via the carefully designed network structure.
- The proposed method shows a clearly better performance than previous methods in terms of visual quality and numerical results

An Improved Matting-SfM Algorithm for 3D Reconstruction of Self-Rotating Objects

Zinuo Li, Zhen Zhang*, Shenghong Luo, et al.*
Mathematics[J], JCR-Q1

- When an object is in self-rotating like the Earth, the traditional SfM algorithm cannot reconstruct it well, or even collapse. We reveal the reason why conventional SfM cannot reconstruct self-rotating objects.
- We propose a new algorithm called Matting-SfM. It was proven that Matting-SfM algorithm possessed more accurate results and reached SOTA, which solved the problem that the self-rotating objects could not be reconstructed.
- Paper is available in MDPI

Skills and Experiences

Experiences：

- **National First Prize of China College Student Computer Designing Competition:** As the leader, led the team to win the first prize at the national level in the artificial intelligence track (4.5% of 6516 projects)
- **Two National University Student Innovation Projects:** One as the leader focusing on 3D reconstruction and one as a member concentrating on geometeorological research
- **Project leader of Guangdong Climbing Innovation Program:** Concentrating on the 3D reconstruction of the foot arch and the determination of the health level

Skills：Strong English skills, able to read various AI papers and understand their principles, as well as strong writing skills.

Coding：Pytorch, Python, OpenCV, Latex, etc.