Linwei Chen 陈林蔚

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Education

Beijing Institute of Technology, School of Computer Science, Electronic Information, *Ph.D.*
(Supervisor: Prof. Ying Fu) 2021.9 - 2025.6

- Research Interests: Medical Large Language Models, Medical Image Processing, Object Detection, Image Segmentation, Low-light Enhancement

Beijing Institute of Technology, School of Computer Science, Software Engineering, *M.S.*
(Supervisor: Prof. Ying Fu) 2019.9 - 2021.6

China University of Geosciences (Beijing), School of Engineering and Technology, Mechanical Design, Manufacturing and Automation, *B.S.* 2014.9 - 2019.6

Selected Publications

1. **Linwei Chen**, Ying Fu*, Lin Gu, Chenggang Yan, Tatsuya Harada, and Gao Huang. Frequency-aware Feature Fusion for Dense Image Prediction. IEEE Transactions on Pattern Analysis and Machine Intelligence (**TPAMI**). (A generalized optimization approach for feature fusion representation, easily applicable to medical images. **IF=20.8**, **CCF-A**, Web of Science Citation Top 0.3%) [Paper] [Code]
2. **Linwei Chen**, Ying Fu*, Lin Gu, Dezhi Zheng, Jifeng Dai. Spatial Frequency Modulation for Semantic Segmentation. IEEE Transactions on Pattern Analysis and Machine Intelligence (**TPAMI**). (Optimization of downsampling. **IF=20.8**, **CCF-A**) [Paper] [Code]
3. **Linwei Chen**, Ying Fu*, Kaixuan Wei, Dezhi Zheng, Felix Heide. Instance Segmentation in the Dark. International Journal of Computer Vision (**IJCV**) 2023. (Tackling extremely high noise; understanding complex scenes under low-light conditions. **IF=15.5**, **CCF-A**) [Paper] [Code & Dataset]
4. **Linwei Chen**, Lin Gu, Dezhi Zheng, Ying Fu*. Frequency Adaptive Dilated Convolution for Semantic Segmentation. IEEE Conference on Computer Vision and Pattern Recognition (**CVPR**) 2024. (**Highlight**, top 2.8%, Optimized dilated-convolution representation, applicable to medical images. **CCF-A**) [Paper] [Code]
5. **Linwei Chen**, Lin Gu, Liang Li, Chenggang Yan, Ying Fu*. Frequency Dynamic Convolution for Dense Image Prediction. IEEE Conference on Computer Vision and Pattern Recognition (**CVPR**) 2025. (Optimization of dynamic convolution, easily applicable to VLM. **CCF-A**) [Paper] [Code]
6. **Linwei Chen**, Lin Gu, Ying Fu*. Frequency-Dynamic Attention Modulation for Dense Prediction. International Conference on Computer Vision (**ICCV**) 2025. (Optimization of attention mechanism representation in Transformer architecture, easily applicable to VLM. **CCF-A**) [Paper] [Code]
7. **Linwei Chen**, Lin Gu, Ying Fu*. When Semantic Segmentation Meets Frequency Aliasing. The International Conference on Learning Representations (**ICLR**) 2024. (Analysis of hard pixel samples. **Class A** top conference in artificial intelligence) [Paper] [Code]
8. Songlin Liu†, **Linwei Chen**†, Li Zhang, Jun Hu, Ying Fu*. A large-scale climate-aware satellite image dataset for domain adaptive land-cover semantic segmentation. ISPRS Journal of Photogrammetry and Remote Sensing, 2023. (**IF=12.7**, **CAS Q1 Top** Journal) [Paper] [Code]

Awards and Honors

1. 2024 China National Scholarship for Doctoral Students, Ministry of Education, China
2. CVPR 2024 PBDL International Challenge, Low-Light Detection and Segmentation Track: 2nd Place (Segmentation), 3rd Place (Detection)
3. 2022 Beijing Institute of Technology Doctoral Special Scholarship
4. 2021 “Intelligent Arrow - Fire Eye” AI Challenge, Top 8 / 500+ Teams Nationally, Excellence Award
5. BMVC 2024 Outstanding Reviewer