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Education

Shanghai Jiao Tong University — Shanghai, China
Master Student of Electric and Information Engineering — *Expected March 2024*
GPA: 3.78/4.0; IELTS: 7.5

Beihang University — Beijing, China
Bachelor of Biomedical Engineering — *2017.09-2021.06*
GPA: 3.87/4.0 (Ranked 1/64); TOEFL: 106

Employment

United Imaging Intelligence — Shanghai, China
Research Intern on Multi-Modality Medical Foundation Models — *2023.08-Now*

Institution of Automation, Chinese Academy of Sciences — Beijing, China
Research Intern on Object Detection — *2021.02-2021.06*

Research

Traumatic Brain MR Scan Segmentation (2021.09 - Now) **Supervisor: Lichi Zhang**

- Data augmentation of traumatic brain scans via cascaded image and label inpainting technique, based on generative adversarial networks;
- Semi-supervised traumatic brain segmentation via rectified contrastive pseudo supervision, extended as a universal SSL method as well;
- One-shot traumatic brain segmentation based on adversarial training and label error rectification, also extended as a universal method;
- One paper accepted by *MICCAI 2023*; one paper accepted by *IEEE JBHI*; one paper accepted by *CMIG*; one paper under peer review (available on *arXiv*).

Efficient Medical Image Segmentation (2020.09 - 2021.07) **Supervisor: Guanglei Zhang**

- Two-stage segmentation via supervised attention mechanism, achieving a sophisticated balance of segmentation performance and efficiency;
- Evaluated proposed method on COVID-19 CT slice dataset and BraTS 2019 dataset, reaching state-of-the-art performance;
- One paper accepted by *IEEE TMI*.

COVID-19 Lung CT Segmentation (2020.04 - 2021.03) **Supervisor: Guanglei Zhang**

- COVID-19 CT slice segmentation based on dual attention mechanism and hybrid dilated convolution;
- Evaluated on a multi-center COVID-19 CT slice dataset, achieving state-of-the-art performance;
- One paper accepted by *Computers in Biology and Medicine*.

Selected Publications

Google Scholar: https://scholar.google.com/citations?user=Sb6wH0AAAAAJ

- **X. Zhao**, D. Zang, S. Wang, Z. Shen, K. Xuan, Z. Wei, Z. Wang, R. Zheng, X. Wu, Z. Li, Q. Wang, Z. Qi, and L. Zhang, "sTBI-GAN: An Adversarial Learning Approach for Data Synthesis on Traumatic Brain Segmentation", *Computerized Medical Imaging and Graphics*, 2024, in press;
- **X. Zhao**, Z. Qi, S. Wang, Q. Wang, X. Wu, Y. Mao, L. Zhang, "Rectified Contrastive Pseudo Supervision for Semi-Supervised Medical Image Segmentation", *IEEE Journal of Biomedical and Health Informatics*, 2023, in press;
- **X. Zhao**, P. Zhang, F. Song, C. Ma, G. Fan, Y. Sun, Y. Feng, and G. Zhang, "Prior Attention Network for Multi-Lesion Segmentation in Medical Images", *IEEE Transactions on Medical Imaging*, 2022, 41(12): 3812-3823;
- **X. Zhao**, P. Zhang, F. Song, G. Fan, Y. Sun, Y. Wang, Z. Tian, L. Zhang, and G. Zhang, "D2A U-Net: Automatic Segmentation of COVID-19 CT Slices Based on Dual Attention and Hybrid Dilated Convolution", *Computers in Biology and Medicine*, 2021, 135: 104526;
- **X. Zhao**, Z. Shen, D. Chen, S. Wang, Z. Zhuang, Q. Wang, and L. Zhang, "One-Shot Traumatic Brain Segmentation with Adversarial Training and Uncertainty Rectification", *International Conference on Medical Image Computing and Computer Assisted Intervention*, 2023: 120-129;
- D. Zang#, **X. Zhao**#, Y. Qiao#, J. Huo, X. Wu, Z. Wang, Z. Xu, R. Zheng, Z. Qi, Y. Mao, L. Zhang, "Enhanced Brain Parcellation via Abnormality Inpainting for Neuroimage-Based Consciousness Evaluation of Hydrocephalus Patients by Lumbar Drainage", *Brain Informatics*, 2023, 10(1): 3;
- **X. Zhao**, S. Wang, Z. Song, Z. Shen, L. Yao, H. Yuan, Q. Wang, and L. Zhang, "AdLER: Adversarial Training with Label Error Rectification for One-Shot Medical Image Segmentation", *arXiv preprint*, 2023.

Awards

Master Student Scholarship First Prize at SJTU	2022
Beijing Outstanding Graduates Award	2021
COMAP's MCM/ICM Contest, Meritorious Winner (7.09%);	2020
CUMCM, Second Prize (China) / First Prize (Beijing)	2019
Beihang University Merit Students (top 5%; 3 times)	2017 – 2020
Academic Excellence Scholarship at Beihang University (top 5%; 3 times)	2017 – 2020

Activities

Teaching Assistant of *Computer Vision in Biomedical Engineering*	2022 Spring
Beihang University Student Mentor	2018 – 2019