Xiangyu Li

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Education

Harbin Institute of Technology (HIT), Harbin, China 2018 – 2023

Ph.D. student in Computer Science (CS).

Harbin Institute of Technology (HIT), Harbin, China 2016 – 2018

Master student in Optical Engineering.

Changchun University of Science and Technology (CUST), Changchun, China 2010 – 2014

B.S. student in Optoelectronic Information Engineering.

Research Interests

My research mainly focuses on deep learning-based medical image analysis, especially on learning with imperfect labels. Moreover, I am also interested in uncertainty estimation of deep neural networks and its applications in medical image analysis.

Work Experience

Assistant Professor Harbin, China 2023 – Present

School of Computer Science and Technology, Harbin Institute of Technology (HIT), Harbin, China.

Postdoctoral Research Fellow Harbin, China 2023 – Present

School of Computer Science and Technology, Harbin Institute of Technology (HIT), Harbin, China.

Research Experience

- Brain tumor segmentation, Harbin Institute of Technology (HIT), Harbin, China, 2018-2020%
- Ultrasound Image analysis, National Natural Science Foundation Project, China, 2018-2020
- Cardiovascular disease analysis, National Natural Science Foundation Project, 2018-2020%
- Brain hemorrhage segmentation and uncertainty estimation, National Key R&D Program of China, 2019-2021%
- Label distribution learning in medical images, Harbin Institute of Technology (HIT), Harbin, China, 2020-Present%
- Ultrasound Super-Resolution Imaging, National Natural Science Foundation Project, 2023-present%
- Quantitative analysis of intracranial arteriosclerosis, The China Postdoctoral Science Foundation General Program, 2024-present

Publications

1. **Xiangyu Li**, Xinjie Liang, Gongning Luo, Wei Wang, Kuanquan Wang and Shuo Li. "Ambiguity-aware breast tumor cellularity estimation via self-ensemble label distribution learning." in ***Medical Image Analysis*** 89(2023):102944. (***Top Journal; IF=10.9***)

2. **Xiangyu Li**, Gongning Luo, Wei Wang, Kuanquan Wang and Shuo Li. "Curriculum Label Distribution Learning for Imbalanced Medical Image Segmentation." in ***Medical Image Analysis*** 89(2023):102911. (***Top Journal; IF=10.9***)

3. **Xiangyu Li**, Gongning Luo, Wei Wang, Kuanquan Wang, Yue Gao, Shuo Li. "Hematoma Expansion Context Guided Intracranial Hemorrhage Segmentation and Uncertainty Estimation," in ***IEEE Journal of Biomedical and Health Informatics***, 26(3): 1140-1151.(***Top Journal; IF=7.7***)

4. **Xiangyu Li**, Xinjie Liang, Gongning Luo, Wei Wang, Kuanquan Wang and Shuo Li. "ULTRA: Uncertainty-Aware Label Distribution Learning for BreastTumor Cellularity Assessment." Medical Image Computing and

Computer-Assisted Intervention (***MICCAI***), pp. 303-312. Springer, Cham, 2022 (***Top conference***)
5. **Xiangyu Li**, Gongning Luo, Kuanquan Wang. "Multi-step cascaded networks for brain tumor segmentation." Medical Image Computing and Computer-Assisted Intervention (MICCAI)-BrainLes. pp.163-173 Springer, Cham, 2019.
6. **Xiangyu Li**, Gongning Luo, Kuanquan Wang, ... & Shuo Li. (2023). The state-of-the-art 3D anisotropic intracranial hemorrhage segmentation on non-contrast head CT: The INSTANCE challenge. arXiv preprint arXiv:2301.03281.
7. Pengzhong Sun, Wei Wang, **Xiangyu Li**, Suyu Dong, ... & Gongning Luo. (2023). Synergistically Learning Class-specific Tokens for Multi-class Whole Slide Image Classification. In 2023 IEEE International Conference on Bioinformatics and Biomedicine (BIBM), pp. 3558-3565. IEEE, 2023.

♡ Honors and Awards

1. The China Postdoctoral Science Foundation General Program	July. 2024
2. The National Postdoctoral Fellowship Program of CPSF, China	July. 2024
3. Outstanding Doctoral Dissertation in Harbin Institute of Technology, China	Sep. 2023
4. Excellent graduate student, Harbin Institute of Technology	Jun. 2023
5. First Class of Academic Scholarship, Harbin Institute of Technology	Sep. 2018
6. Second Class of Academic Scholarship, Harbin Institute of Technology	Jun. 2017
7. Daheng Wang' scholarship, Changchun University of Science and Technology	Jun. 2018
8. First Class of Academic Scholarship, Changchun University of Science and Technology	Jun. 2012
9. First Class of Academic Scholarship, Changchun University of Science and Technology	Jun. 2011

⚙ Skills

- Programming Languages: Python > C# > Matlab
- Platform: Pytorch, Tensorflow, Linux, 3D Slicer.

♡ Services

Reviewer for Journals:

- IEEE Transactions on Medical Imaging (TMI)
- Medical Image Analysis (MedIA)
- IEEE Journal of Biomedical and Health Informatics (J-BHI)
- Applied Science

Reviewer for Conferences:

- MICCAI (2019-2024)
- AAAI (2023-2024)
- IJCAI (2022-2024)
- CVPR (2023-2024)
- BIBM (2019-2020)