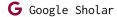
Xiangde Luo, PhD student



in LinkedIn



Home Page



Bio: Xiangde focuses on data-efficient medical image analysis, such as self-supervised learning, semi-supervised learning, weakly-supervised learning, active learning and human-in-the-loop and applies them to clinical applications, especially in radiotherapy. Recently, he led some impact projects in the medical image analysis community: 1) built a semi-supervised medical image segmentation benchmark **SSL4MIS** with \sim 2000 stars on GitHub; 2) organized a challenge **SegRap2023** in conjunction with MICCAI; 3) released a large scale abdominal organ segmentation dataset **WORD**. He has published several top-tier journals or conferences and these works were cited > **4300** times (**four 1st authored papers** > **100**), the **h-index** is **16**.

Education

2018 - 2024

Ph.D., School of Mechanical and Electrical Engineering, University of Electronic Science and Technology of China. Supervisor: Prof. Shaoting Zhang
Thesis title: Medical Image Segmentation with Limited Labeled Data.

2014 - 2018

B.E., School of Mechanical and Electrical Engineering, University of Electronic Science and Technology of China. Supervisor: *Prof. Shaoting Zhang*Thesis title: Data capture using crawl and its applications

Employment History

2019 - 2021

Research Intern SenseTime Research, Mentor: Dr. Tao Song

2021 - 2024

Research Intern Shanghai AI Laboratory, Mentor: Prof. Xiaofan Zhang

Highlight Publications

Journal Articles

- H. Wang, ..., and **X. Luo**, "Dual-reference source-free active domain adaptation for nasopharyngeal carcinoma tumor segmentation across multiple hospitals," *arXiv preprint arXiv:2309.13401*, 2024.
- W. Liao, **X. Luo**, Y. He, *et al.*, "Comprehensive evaluation of a deep learning model for automatic organs-at-risk segmentation on heterogeneous computed tomography images for abdominal radiation therapy," *International Journal of Radiation Oncology* Biology* Physics*, vol. 117, no. 4, pp. 994–1006, 2023.
- **X. Luo**, J. Fu, Y. Zhong, *et al.*, "SegRap2023: A benchmark of organs-at-risk and gross tumor volume segmentation for radiotherapy planning of nasopharyngeal carcinoma," *arXiv preprint arXiv:2312.09576*, 2023.
- **X. Luo**, W. Liao, Y. He, *et al.*, "Deep learning-based accurate delineation of primary gross tumor volume of nasopharyngeal carcinoma on heterogeneous magnetic resonance imaging: A large-scale and multi-center study," *Radiotherapy and Oncology*, vol. 180, p. 109 480, 2023.
- **X. Luo**, W. Liao, J. Xiao, *et al.*, "Word: A large scale dataset, benchmark and clinical applicable study for abdominal organ segmentation from ct image," *Medical Image Analysis*, vol. 82, p. 102 642, 2022.
- **X. Luo**, T. Song, G. Wang, *et al.*, "SCPM-Net: An anchor-free 3d lung nodule detection network using sphere representation and center points matching," *Medical Image Analysis*, vol. 75, p. 102 287, 2022.
- **X. Luo**, G. Wang, W. Liao, *et al.*, "Semi-supervised medical image segmentation via uncertainty rectified pyramid consistency," *Medical Image Analysis*, vol. 80, p. 102 517, 2022.

X. Luo, G. Wang, T. Song, *et al.*, "MIDeepSeg: minimally interactive segmentation of unseen objects from medical images using deep learning," *Medical Image Analysis*, vol. 72, p. 102 102, 2021.

Conference Proceedings

- M. Han, **X. Luo**, W. Liao, S. Zhang, S. Zhang, and G. Wang, "Scribble-based 3d multiple abdominal organ segmentation via triple-branch multi-dilated network with pixel-and class-wise consistency," in *International Conference on Medical Image Computing and Computer-Assisted Intervention*, Springer, 2023, pp. 33–42.
- **X. Luo**, M. Hu, W. Liao, *et al.*, "Scribble-supervised medical image segmentation via dual-branch network and dynamically mixed pseudo labels supervision," in *International Conference on Medical Image Computing and Computer-Assisted Intervention*, Springer, 2022, pp. 528–538.
- **X. Luo**, M. Hu, T. Song, G. Wang, and S. Zhang, "Semi-supervised medical image segmentation via cross teaching between cnn and transformer," in *International Conference on Medical Imaging with Deep Learning*, PMLR, 2022, pp. 820–833.
- **X. Luo**, J. Chen, T. Song, and G. Wang, "Semi-supervised medical image segmentation through dual-task consistency," in *Proceedings of the AAAI conference on artificial intelligence*, vol. 35, 2021, pp. 8801–8809.
- **X. Luo**, W. Liao, J. Chen, *et al.*, "Efficient semi-supervised gross target volume of nasopharyngeal carcinoma segmentation via uncertainty rectified pyramid consistency," in *International Conference on Medical Image Computing and Computer-Assisted Intervention*, Springer, 2021, pp. 318–329.

Skills

Languages Strong academic reading and writing competencies in English and Chinese.

IT and Coding Python, PyTorch, TensorFlow, R, Linux.

Deep learning Self-/Semi-/Weakly-Supervised Learning, Active Learning, Human-in-the-lop.

Medical Images SimpleITK, Radiomics, 3D Slicer, ITK-SNAP.

Academic Experience and Achievements

Awards and Achievements

2023 TMI Distinguished Reviewer

2022 MICCAI Student Travel Award

Journals/Conferences Review

Journals TPAMI, MedIA, TMI, TNNLS, TGRS, PR, JBHI

Conferences MICCAI2021, MICCAI2022, MICCAI2023

Open Source Projects

DTC https://github.com/HiLab-git/DTC (> 260 stars)

WORD | https://github.com/HiLab-git/WORD (> 100 stars)

SSL₄MIS https://github.com/HiLab-git/SSL₄MIS (~ 2000 stars)

WSL₄MIS | https://github.com/HiLab-git/WSL₄MIS (> 170 stars)

MIDeepSeg | https://github.com/HiLab-git/MIDeepSeg (> 100 stars)