





Xiangde Luo, Ph.D.

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 LinkedIn



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Bio: Xiangde Luo is a postdoctoral researcher in the **Prof. Ruijiang Li's** lab at Stanford Medicine, where he specializes in computational pathology. His work focuses on developing AI-driven methods for imaging biomarker discovery and precision oncology. Previously, he has developed some deep learning models to enable annotation-efficient learning and advance biomedical image analysis. Besides, he has promoted some interesting projects in the MICCAI community: 1) built a semi-supervised medical image segmentation benchmark **SSL4MIS** with more than 2500 stars on GitHub; 2) organized a challenge **SegRap2023** in conjunction with MICCAI; 3) released large scale abdominal organ segmentation datasets **WORD** and **RAOS**. He has published several papers in top journals or conferences, and these works were cited > **11000** times (from Google Scholar)(**seven of them citations ≥ 100**), **h**, **i10**-index are **25**, **37**, respectively. He was listed in the **Stanford/Elsevier World's Top 2% Scientists 2025**.

Education

- 2018-09 – 2024-06  **Ph.D., University of Electronic Science and Technology of China (UESTC)**
Supervisor: **Prof. Shaoting Zhang**
Thesis: *Medical Image Segmentation Using a Limited Amount of Labeled Data*
- 2014-09 – 2018-06  **B.E., University of Electronic Science and Technology of China (UESTC)**
Supervisor: **Prof. Shaoting Zhang**
Thesis: *Data capture using crawl and its applications*

Employment History

- 2024-11 – present  **Postdoctoral Fellow at Stanford University, Advisor: Prof. Ruijiang Li**
- 2024-07 – 2024-10  **Research Assistant at West China Hospital, Mentor: Prof. Kang Li**
- 2021-06 – 2024-06  **Research Intern at Shanghai AI Laboratory, Mentor: Prof. Xiaofan Zhang**
- 2019-07 – 2020-06  **Research Intern at SenseTime Research, Mentor: Dr. Tao Song**

Highlight Publications

Journal Articles



- 1 H. Wang, ..., and **X. Luo**, "Dual-reference source-free active domain adaptation for nasopharyngeal carcinoma tumor segmentation across multiple hospitals," *IEEE Transactions on Medical Imaging*, vol. 43, no. 12, pp. 4078–4090, 2024. **Corresponding author.**
- 2 H. Wang, ..., and **X. Luo**, "Versatile source-free active domain adaptation for multi-center and multi-rater medical image segmentation," *Information Fusion*, p. 103 586, 2025. **Corresponding author.**
- 3 **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. **ESI Highly Cited Papers.**
- 4 **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," *Medical image analysis*, vol. 101, p. 103 447, 2025.
- 5 **X. Luo**, H. Wang, J. Xu, *et al.*, "Generalizable magnetic resonance imaging-based nasopharyngeal carcinoma delineation: Bridging gaps across multiple centers and raters with active learning," *International Journal of Radiation Oncology* Biology* Physics*, vol. 121, no. 5, pp. 1384–1393, 2025.

- 6 X. Luo, X. Wang, F. Eweje, *et al.*, “Ensemble learning of foundation models for precision oncology,” *arXiv preprint arXiv:2508.16085*, 2025.
- 7 X. Luo, W. Liao, Y. Zhao, *et al.*, “A multicenter dataset for lymph node clinical target volume delineation of nasopharyngeal carcinoma,” *Nature Scientific Data*, vol. 11, p. 1085, 2024.
- 8 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.
- 9 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.
- 10 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.
- 11 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

- 1 Z. Luo, ..., and X. Luo*, “Dynamic gradient sparsification training for few-shot fine-tuning of ct lymph node segmentation foundation model,” in *International Conference on Medical Image Computing and Computer-Assisted Intervention*, 2025. **Corresponding author.**
- 2 Y. Wu*, X. Luo*, Z. Xu, *et al.*, “Diversified and personalized multi-rater medical image segmentation,” in *IEEE/CVF Conference on Computer Vision and Pattern Recognition*, 2024. **Co-first authors.**
- 3 H. Zhang, X. Luo, Y. Chen, and K. Li, “Diffoseg: Omni medical image segmentation via multi-expert collaboration diffusion model,” in *International Conference on Medical Image Computing and Computer-Assisted Intervention*, 2025. **Advisor, Best Paper Award Short Final List.**
- 4 H. Wang*, X. Luo*, W. Chen, *et al.*, “Advancing uwf-slo vessel segmentation with source-free active domain adaptation and a novel multi-center dataset,” in *International Conference on Medical Image Computing and Computer-Assisted Intervention*, Springer, 2024, 75–85. **Co-first authors.**
- 5 X. Luo, Z. Li, S. Zhang, W. Liao, and G. Wang, “Rethinking abdominal organ segmentation (raos) in the clinical scenario: A robustness evaluation benchmark with challenging cases,” in *International Conference on Medical Image Computing and Computer-Assisted Intervention*, Springer, 2024, pp. 531–541.
- 6 Z. Luo*, X. Luo*, Z. Gao, and G. Wang, “An uncertainty-guided tiered self-training framework for active source-free domain adaptation in prostate segmentation,” in *International Conference on Medical Image Computing and Computer-Assisted Intervention*, Springer, 2024, 107–117. **Co-first authors.**
- 7 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.
- 8 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.
- 9 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, 8801–8809, **Top 15 Most Influential AAAI 2021 Papers.**
- 10 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.

Research topic



- AI for Medicine  Annotation-efficient learning, Data-centric learning, Computational pathology
- Precision Oncology  Immunotherapy response prediction, spatial transcriptomic and proteomic

Academic Experience and Achievements

Awards and Achievements

- 2023  TMI Distinguished Reviewer
- 2022  MICCAI Student Travel Award

Journals/Conferences Review

- Journals  Nature Communication, TPAMI, MedIA, TMI, TNNLS, TGRS, PR, JBHI, eClinicalMedicine
- Conferences  MICCAI2021, MICCAI2022, MICCAI2023, MICCAI2024, AAAI2022, AAAI2023