Chengyin Li

CONTACT INFORMATION

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APPOINTMENT

Researcher and Programmer in Radiation Oncology — Aug. 2024 - Present
Department of Radiation Oncology
Henry Ford Health
Detroit, MI, USA

RESEARCH INTERESTS

Medical Image Analysis with Deep Learning

- Automatic medical image segmentation
- Multi-modal learning
- Foundation models in medical domain
- Clinical-oriented AI solutions for healthcare

Trustworthy AI

- Fairness, Explainability, Robustness

EDUCATION

Wayne State University, Detroit, Michigan, USA — Sept. 2019 - June 2024
- *Ph.D.* in Computer Science
- Advisor: *Prof.* Dongxiao Zhu

University of Chinese Academy of Sciences, Beijing, China — Sept. 2013 - July 2016
- *M.E.* in Chemical Engineering

Nanjing University of Science and Technology, Nanjing, China — Sept. 2009 - July 2013
- *B.E.* in Chemical Engineering

RESEARCH EXPERIENCE

Department of Radiation Oncology, Henry Ford Health — Aug. 2024 - Present
- Researcher and Programmer in Radiation
- Supervisor: *Dr.* Kundan Thind

Trustworthy AI Lab, Wayne State University — Sept. 2019 - May 2024
- Graduate Research Assistant
- Supervisor: *Prof.* Dongxiao Zhu

Department of Radiation Oncology, Henry Ford Health — May 2022 - July 2024
- Research Scientist (part-time)
- Mentor: *Dr.* Indrin J. Chetty

The Shenzhen Institutes of Advanced Technology — Sept. 2017 - Dec. 2018
- Research Assistant (part-time)
- Mentor: *Prof.* Yu Qiao

The Chinese University of Hong Kong (SZ) — Sept. 2017 - Sept. 2018
- Graduate Teaching Assistant

Institute of Process Engineering, Chinese Academy of Sciences — Sept. 2016 - July 2017
- Research Assistant

PUBLICATIONS

*ECCV, WACV, IJCAI, NeurIPS, and MICCAI are among the leading conferences in computer vision, artificial intelligence, machine learning, and medical imaging, with Google Scholar Metrics (2024) reporting h5-index scores of 337 for NeurIPS, 206 for ECCV, 109 for WACV, 136 for IJCAI, and 96 for MICCAI—NeurIPS is ranked **1st** among AI journals and conferences in engineering and computer science and seventh overall. Additionally, top journals such as Medical Physics (h5-index 81) in radiology and medical imaging and Pediatric Research (h5-index 64) in pediatric medicine further highlight the quality of research in these domains. Current impact metrics (Feb. 2025): 338 citations, h-index: 8, i10-index: 7 by Google Scholar.*

Peer-Reviewed Conferences/Proceedings

[C1] **Chengyin Li**, Hui Zhu, Rafi Ibn Sultan, Hassan Bagher Ebadian, Prashant Khanduri, Chetty Indrin, Kundan Thind, and Dongxiao Zhu. MulModSeg: Enhancing Unpaired Multi-Modal Medical Image Segmentation with Modality-Conditioned Text Embedding and Alternating Training. *IEEE/CVF Winter Conference on Applications of Computer Vision (**WACV**)*, 2025.

[C2] **Chengyin Li**, Prashant Khanduri, Yao Qiang, Rafi Ibn Sultan, Indrin Chetty, and Dongxiao Zhu. AutoProSAM: Automated prompting SAM for 3D multi-organ segmentation. *IEEE/CVF Winter Conference on Applications of Computer Vision (**WACV**)*, 2025.

[C3] **Chengyin Li**, Rafi Ibn Sultan, Hassan Bagher-Ebadian, Yao Qiang, Kundan Thind, Dongxiao Zhu, and Indrin Chetty. On the Implementation and Evaluation of Loss Functions for Robust Multiple Anatomy Segmentation on CT Images. *International Conference on the use of Computers in Radiation Therapy (**ICCR**), 2024.*

[C4] **Chengyin Li**, Yao Qiang, Rafi Ibn Sultan, Hassan Bagher-Ebadian, Prashant Khanduri, Indrin J. Chetty, and Dongxiao Zhu. FocalUNETR: A Focal Transformer for Boundary-aware Prostate Segmentation using CT Images. *International Conference on Medical Image Computing and Computer Assisted Intervention (**MICCAI**)*, 2023.

[C5] **Chengyin Li**, Zheng Dong, Nathan Fisher, and Dongxiao Zhu. Coupling User Preference with External Rewards to Enable Driver-centered and Resource-aware EV Charging Recommendation. *The* 23^{rd} *European Conference on Machine Learning and Principles and Practice of Knowledge Discovery in Databases (**ECML-PKDD**), Oral*, 2022.

[C6] Yao Qiang, **Chengyin Li**, Prashant Khanduri, Dongxiao Zhu. Fairness-aware Vision Transformer via Debiased Self-Attention. *European Conference on Computer Vision (**ECCV**)*, 2024.

[C7] Mohammad Peivandi, Jason Zhang, Michael Lu, **Chengyin Li**, Dongxiao Zhu, and Zhifeng Kou. "Empirical Evaluation of the Segment Anything Model (SAM) for Brain Tumor Segmentation". *IEEE International Symposium on Biomedical Imaging (**ISBI**)*, 2024.

[C8] Xin Li, Deng Pan, **Chengyin Li**, Yao Qiang, and Dongxiao Zhu. Negative Flux Aggregation to Estimate Feature Attributions. *The* 32^{nd} *International Joint Conference on Artificial Intelligence (**IJCAI**)*, 2023.

[C9] Yao Qiang, **Chengyin Li**, Marco Brocanelli, and Dongxiao Zhu. Counterfactual interpolation augmentation (CIA): A unified approach to enhance fairness and explainability of DNN. *The* 31^{st} *International Joint Conference on Artificial Intelligence (**IJCAI**)*, 2022.

[C10] Yao Qiang, Deng Pan, **Chengyin Li**, Xin Li, Rhongho Jang, and Dongxiao Zhu. AttCAT: Explaining Transformers via Attentive Class Activation Tokens. *Thirty-sixth Conference on Neural Information Processing Systems (**NeurIPS**)*, 2022.

[C11] Xin Li, **Chengyin Li**, and Dongxiao Zhu. COVID-MobileXpert: On-device COVID-19 Patient Triage and Follow-up Using Chest X-rays. *International Conference on Bioinformatics and Biomedicine (**BIBM**)*, 2020.

Peer-Reviewed Journals

[J1] **Chengyin Li**, Hassan Bagher-Ebadian, Rafi Ibn Sultan, Mohamed Elshaikh, Benjamin Movsas, Dongxiao Zhu, and Indrin J. Chetty. A New Architecture Combining Convolutional and

Transformer-Based Networks for Automatic 3D Multi-Organ Segmentation on CT Images. ***Medical Physics***, 2023.

[J2] **Chengyin Li**, Rhea E. Sullivan, Rhea E. Sullivan, Dongxiao Zhu, and Steven D. Hicks. Putting the "mi" in Omics: Discovering Mirna Biomarkers for Pediatric Precision Care. ***Pediatric Research***, 2022.

Peer-Reviewed Workshops

[W1] Prashant Khanduri, **Chengyin Li**, Rafi Ibn Sultan, Yao Qiang, Joerg Kliewer, and Dongxiao Zhu. Proximal Compositional Optimization for Distributionally Robust Learning. ***ICML*** *New Frontiers in Adversarial Machine Learning Workshop*, 2023.

[W2] Xin Li, Yao Qiang, **Chengyin Li**, Sijia Liu, and Dongxiao Zhu. Saliency-guided Adversarial Training for Learning Generalizable Features with Applications to Medical Imaging Classification System. ***ICML*** *New Frontiers in Adversarial Machine Learning Workshop*, 2022.

HONORS AND AWARDS

Michael E. Conrad Award (Highest Honor at WSU CS Department)	2024
Outstanding Graduate Research Assistant Award	2024
Graduate Student Professional Travel Award	2022
Thomas C. Rumble Fellowship Award	Aug. 2019 - May 2020

SERVICES

Program Committee Member/Conference Reviewer

- ICCV: International Conference on Computer Vision 2025
- ICML: International Conference on Machine Learning 2025
- ICLR: International Conference on Learning Representations 2025
- AISTATS: International Conference on Artificial Intelligence and Statistics 2025
- IJCAI: International Joint Conference on Artificial Intelligence 2024-2025
- CVPR: IEEE/CVF Conference on Computer Vision and Pattern Recognition 2024-2025
- NeurIPS: Conference on Neural Information Processing Systems 2023-2024
- MICCAI: Medical Image Computing and Computer Assisted Intervention 2023-2024
- ICML Workshop: Adversarial Machine Learning Frontiers 2022

Journal Reviewer

- Medical Physics 2024-2025
- IEEE Transactions on Medical Imaging (TMI) 2023-2025
- Transactions on Machine Learning Research (TMLR) 2024-2025
- Journal of Medical Imaging 2024
- Smart Health 2023
- BMC Genomics 2023
- Scientific Reports – Nature 2021

Invited Talks

- CS Seminar: Medical Image Segmentation with Transformers, Wayne State University 2024
- BBC Virtual Seminar, Karmanos Cancer Institute, Wayne State University 2024