

CURRICULUM VITAE


Xiaozheng Xie


Lecturer

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****Research Interests****

- Computer Vision, Medical Image Analysis, Causal Inference
- Breast Cancer Auxiliary Diagnosis

****Education****

****PhD in Computer Architecture ****

Beihang University, Beijing, China

2017 – 2022

- Thesis: Research on Incorporating Medical Domain Knowledge into Intelligent Breast Tumor Diagnosis (Advisor: Prof. Jianwei Niu)

****MSc in Computer Science and Technology ****

Zhengzhou University, Zhengzhou, China

2014 – 2017

- Dissertation: Crowd Behavior Simulation Research in Unexpected Multi-hazard Situation

****BSc in Computer Science and Technology ****

Zhengzhou University, Zhengzhou, China

2010 – 2014

****Research Experience****

****Lecturer****

University of Science and Technology Beijing, Beijing, China

2024 – Present

****Postdoctoral Researcher****

University of Science and Technology Beijing, Beijing, China

2022 – 2024

****Publications****

****Journal Articles****

1. **Xiaozheng Xie**, Jianwei Niu, Xuefeng Liu, Yong Wang, Qingfeng Li, Shaojie Tang. "A Domain Knowledge Powered Hybrid Regularization Strategy for Semi-Supervised Breast Cancer Diagnosis." *Expert Systems with Applications*, 243:122897, 2024 (SCI, IF = 7.5)
2. **Xiaozheng Xie**, Jianwei Niu, Xuefeng Liu, Yong Wang, Qingfeng Li, Jie Han, Shaojie Tang. DG-CNN: Introducing Margin Information into Convolutional Neural Networks for Breast Cancer Diagnosis in Ultrasound Images. *Journal of Computer Science and Technology*, 37(2): 277-294, 2022. (SCI, CCF B)
3. **Xiaozheng Xie**, Jianwei Niu, Xuefeng Liu, Zhengsu Chen, Shaojie Tang, Shui Yu. A Survey on Incorporating Domain Knowledge into Deep Learning for Medical Image Analysis. *Medical Image Analysis*, 69:101985, 2021. (SCI, CCF B, IF: 11.8, **ESI Highly Cited Paper**)
4. Mingliang Xu, **Xiaozheng Xie**, Pei Lv, Jianwei Niu, Hua Wang, Chaochao Li, Ruijie Zhu, Zhigang Deng, Bing Zhou. Crowd Behavior Simulation with Emotional Contagion in Unexpected Multihazard Situations. *IEEE Transactions on Systems, Man and Cybernetics: Systems*. 51(3): 1567-1581, 2021. (SCI, CCF B, IF: 8.7, **ESI Highly Cited Paper**)
5. Jie Han, Yuanjing Gao, Ling Huo, Dong Wang, **Xiaozheng Xie**, Rui Zhang, Mengsu Xiao, Nan Zhang, Meng Lei, Quanlin Wu, Lu Ma, Chao Sun, Xinyi Wang, Lei Liu, Shuzhen Cheng, Binghui Tang, Liwei Wang, Qingli Zhu, Yong Wang. Whole-Lesion-Aware Network Based on Freehand Ultrasound Video for Breast Cancer Assessment: A Prospective Multicenter Study. *Cancer Imaging*, 25, 75, 2025. (SCI, IF = 3.5)

****Conference Papers****

1. Haochen Zhao, Jianwei Niu, Xuefeng Liu, **Xiaozheng Xie**, Li Kuang, Haotian Yang, Bin Dai, Hui Meng, Yong Wang. Keep Your Friends Close, and Your Enemies Farther:

Distance-aware Voxel-wise Contrastive Learning for Semi-supervised Multi-organ Segmentation. IEEE International Conference on Computer Vision (ICCV), 2025. (CCF A)

2. Haochen Zhao, Hui Meng, Deqian Yang, **Xiaozheng Xie**, Xiaoze Wu, Qingfeng Li, Jianwei Niu. GuidedNet: Semi-Supervised Multi-Organ Segmentation via Labeled Data Guide Unlabeled Data. ACM Multimedia 2024: 886-895. (CCF A)

3. **Xiaozheng Xie**, Yong Wang, Chen Chen, Rui Wang, Xuefeng Liu, Jianwei Niu. IMAN: An Iterative Mutual-Aid Network for Breast Lesion Segmentation on Multi-modal Ultrasound Images. IEEE BIBM 2023: 3954-3961. (CCF B)

4. **Xiaozheng Xie**, Jianwei Niu, Xuefeng Liu, Qingfeng Li, Yong Wang, Shaojie Tang. DK-Consistency: A Domain Knowledge Guided Consistency Regularization Method for Semi-supervised Breast Cancer Diagnosis. IEEE BIBM 2021: 3435-3442. (CCF B)

5. **Xiaozheng Xie**, Faqiang Shi, Jianwei Niu, Xiaolan Tang. Breast Ultrasound Image Classification and Segmentation Using Convolutional Neural Networks. Pacific Rim Conference on Multimedia (PCM), 2018: 200-211

****Grants & Awards****

Research Grants and Projects

1. **National Natural Science Foundation of China (NSFC) – Young Scientists Fund** (No. 62402032), Research On The Multi-Modal Breast Cancer Auxiliary Diagnosis Based On The Causal Chain-Of-Thought In-The-Loop. 2025–2027 | ¥300,000 | **Principal Investigator** | Ongoing.

2. **China Postdoctoral Science Foundation – General Program** (No. 2023M730224), Causal Mechanism-Driven Interpretable and Generalizable Breast Cancer auxiliary Diagnosis, 2023 – 2024 (Amount: ¥80,000) | **Principal Investigator** | Completed.

3. **Guangdong Basic and Applied Basic Research Foundation – Regional Joint Fund - Youth Project** (No. 2023A1515110908), Domain Knowledge and Causal Mechanism Integration for Breast Cancer Diagnosis under Imbalanced Multimodal Scenarios. 2023 – 2026 | ¥100,000 | **Principal Investigator** | Ongoing.

4. **Fundamental Research Funds for the Central Universities** (No. FRF-TP-22-051A1). Key Technologies for Breast Ultrasound Video-Based Computer-Aided Diagnosis Integrating Medical Domain Knowledge. 2022 – 2024 | ¥100,000 | **Principal Investigator** | Ongoing

Research Awards

1. **Second Prize (Provincial/Ministerial Level), Science and Technology Progress Award**, China Association of Medical Education Awarded 2023 | Ranked **8th out of 15** recipients.

2. **Second Prize in the Graduate Education and Teaching Achievement Award**, University of Science and Technology Beijing 2024 | Ranked **5th out of 11** recipients.

****Professional Skills****

- ****Programming****: Python (PyTorch), MATLAB
- ****Tools****: Linux, Git, Docker, LaTeX
- ****Languages****: English (Fluent), Chinese (Native)

****Teaching Experience****

- Course Name: Discrete Mathematics
- Course Start Date: Fall 2024, Fall 2025
- Duties: Led tutorials, graded assignments, mentored 160 students.

****Professional Service****

- Reviewer for IEEE TSMC-A (2024), Scientific Reports (2024, 2025)