YUEXIANG LI

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RESEARCH INTEREST

Computer Vision, Medical Image Analysis, Computer-aided Diagnosis, Self-supervised Learning, and Foundation Model

EDUCATION

PhD in Electronic Engineering Oct. 2012 - Jul. 2016
University of Nottingham, Nottingham, United Kingdom
Ranked the 130 of Worldwide University Rankings 2023 | Times Higher Education
Supervisors: John Crowe & Siu-Yeung Cho & Tommy W.S. Chow, *IEEE Fellow* (External)

Master in Electronic Engineering Sep. 2011 - Jun. 2012
Hong Kong University of Science and Technology, Hong Kong

Bachelor in Telecomunication Engineering Sep. 2007 - Jul. 2011
Beijing University of Posts and Telecommunications, Beijing, China

EXPERIENCE

Full Professor | Guangxi Medical University Nanning, China
Life Sciences Institute *Jul. 2023 - Present*

- Academic leader of the discipline of artificial intelligence.
- Leads the Medical AI ReSearch (MARS) group.
- Focused on the application of AI for clinical scenarios.

Senior Researcher | Tencent Shenzhen, China
Tencent Jarvis Research Center *Dec. 2019 - Jul. 2023*

- Directed by Yefeng Zheng, *IEEE Fellow*.
- Responsible for the development of computer aided diagnosis system for COVID-19.
- Obtained the NMPA licence for COVID-19 AI diagnosis system.
- Rich experiences on the collaboration with physicians.

Senior Researcher | Tencent Shenzhen, China
YouTu Lab *May 2018 - Dec. 2019*

- Directed by Jiaya Jia, *IEEE Fellow*.
- Responsible for the development of computer aided diagnosis system for cervical cancer.
- The developed AI achieved a comparable diagnosis accuracy to experienced physicians.

Postdoctoral Fellowship | Shenzhen University Shenzhen, China
Computer Vision Institute *Jul. 2016 - May 2018*

- Mainly worked on developing automatic processing algorithms for microscopic images.

CONCURRENT POST

Visiting Professor | Guangdong Provincial People's Hospital Guangzhou, China
MEDIA Lab *Aug. 2024 - Present*

- Directed by Zaiyi Liu, NSFC Distinguished Young Scholar
- Collaboration on developing the AI system for prostate cancer diagnosis.

Principal Scientist | Guangxi Institute of Precision Medicine Nanning, China
Artificial Intelligence (AI) Research Center *Apr. 2024 - Present*

- Leads a R&D group for medical AI development.
- Conducts researches and industrial technologies on medical foundation models.
- Aimed to develop a general AI system performing the robust grading for diverse diseases.

PROJECT

Medical Multimodal Foundation Model Guangxi Institute of Precision Medicine
Principal Researcher *Jan. 2024 - Present*

- Integrate multimodal information such as medical images (MRI, CT, *etc.*), patient test results, and admission reports to develop a large medical multimodal model.
- The developed model is planned to achieve stable and accurate lesion classification for a variety of diseases in clinical scenarios, so as to achieve the purpose of accurate grading diagnosis and treatment.
- On the basis of lesion grading tasks, the function of the model is further expanded to achieve a variety of clinical tasks including multi-disease lesion segmentation.

Intelligent Early Warning System for Critical Care Wards The First Affiliated Hospital of GXMU
Principal Researcher *Oct. 2023 - Present*

- Cooperated with Mindray Medical Company (Shenzhen) to develop a severe warning system.
- The developed system is based on multi-modal large model technology.
- The system has been tested in the First Affiliated Hospital of Guangxi Medical University (GXMU).

The National Open Innovation Platform for Medical Imaging Tencent
Principal Researcher *Nov. 2020 - Mar. 2023*

- Build a medical imaging research platform, empower hospitals and scientific research institutes, and help medical artificial intelligence industry-university-research innovation cooperation and achievement transformation.
- Cutting-edge medical imaging AI algorithm development and deployment to the cloud.
- Development of a hands-on course on artificial intelligence medical imaging.

Fatigue Fracture Grading System Tencent
Principal Researcher *Oct. 2020 - Oct. 2021*

- Developed an automated grading system for fatigue fracture.
- Collaborated with Jinling Hospital, Medical School of Nanjing University and published several academic papers.

Computer-aided COVID-19 Diagnosis System Tencent
Principal Researcher *Feb. 2020 - Aug. 2021*

- Developed three core modules for COVID-19 automated diagnosis system, including COVID-19 identification, lesion segmentation and lung segmentation.
- Obtained the NMPA licence for COVID-19 AI diagnosis system.

Automated Screening System for Cervical Cancer Tencent
Principal Researcher *Sep. 2018 - Jul. 2023*

- Implemented seven core modules, including image quality assessment, cervical cancer identification and biopsy localization.
- Collaborated with Shenzhen Maternity & Child Healthcare Hospital and published several academic papers on clinical medicine.

FUNDING

Scientific and Technical Innovation 2030—"New Generation Artificial Intelligence" Project China
Principal Participant *Nov. 2020 - Oct. 2024*

- Comprehensive analysis of cross modal medical imaging for multidisciplinary assisted diagnosis and treatment of tumors, No. 2020AAA0104100, 5,620,000, In Progress.

Natural Science Foundation of China China
Principal Investigator *Jan. 2018 - Dec. 2020*

- A research on 3D cell image segmentation technology based on deep learning, No. 61702337, 250,000, Finished.

Postdoctoral Science Foundation of China China
Principal Investigator *Dec. 2017 - Jul. 2018*

- A research on artificial intelligence segmentation algorithm for 3D microscopic images, No. 2017M622779, 50,000, Finished.

Nanning City Science and Technology Bureau China
Principal Investigator *Jan. 2017 - Dec. 2018*

- Research and application of SmartCity intelligent lighting cloud platform, No. 20171121-2, 200,000, Finished.

PUBLICATION

Published **70+** academic papers; Total impact factor reached **150+**.

Conference Paper

*Only listing the publications as First Author# / Corresponding Author**

- **CCF-A**

1 Haozhe Liu#, Wentian Zhang#, Bing Li*, Haoqian Wu, Nanjun He, Yawen Huang, **Yuexiang Li***, Bernard Ghanem, and Yefeng Zheng: AdaptiveMix: Improving GAN training via feature space shrinkage, ***IEEE Conference on Computer Vision and Pattern Recognition (CVPR)***, 2023.

2 Jinheng Xie#, **Yuexiang Li***, Yawen Huang, Haozhe Liu, Wentian Zhang, Yefeng Zheng, and Mike Zheng Shou*: BoxDiff: Text-to-image synthesis with training-free box-constrained Diffusion, ***International Conference on Computer Vision (ICCV)***, 2023.

3 Wentian Zhang#, Haozhe Liu#, Bing Li*, Jinheng Xie, Yawen Huang, **Yuexiang Li*** et al.: Dynamically masked discriminator for generative adversarial networks, ***Neural Information Processing Systems (NeurIPS)***, 2023.

4 Qi Bi#, Jingjun Yi#, Hao Zheng*, Wei Ji, Yawen Huang, **Yuexiang Li***, and Yefeng Zheng: Learning generalized medical image segmentation from decoupled feature queries, ***AAAI Conference on Artificial Intelligence (AAAI)***, 2024.

5 Haozhe Liu#, Bing Li*, Haoqian Wu, Hanbang Liang, Yawen Huang, **Yuexiang Li***, Bernard Ghanem, and Yefeng Zheng: Combating mode collapse in GANs via manifold entropy estimation, ***AAAI Conference on Artificial Intelligence (AAAI)*** **(Oral)**, 2023.

6 Jiawei Chen#, **Yuexiang Li***, Kai Ma, and Yefeng Zheng: Generative adversarial networks for video-to-video domain adaptation, ***AAAI Conference on Artificial Intelligence (AAAI)***, 2020.

7 Hong Wang#, **Yuexiang Li***, Deyu Meng*, and Yefeng Zheng: Adaptive convolutional dictionary network for CT metal artifact reduction, ***International Joint Conference on Artificial Intelligence (IJCAI)***, 2022.

8 Jingjun Yi#, Qi Bi, Hao Zheng*, Haolan Zhan, Wei Ji, Yawen Huang, **Yuexiang Li***, and Yefeng Zheng: Learning spectral-decomposited tokens for domain generalized semantic segmentation, ***ACM International Conference on Multimedia (MM)***, 2024.

- **CCF-B**

9 Xinpeng Xie#, Jiawei Chen#, **Yuexiang Li***, Linlin Shen, Kai Ma, and Yefeng Zheng: Self-supervised CycleGAN for object-preserving image-to-image domain adaptation, ***European Conference on Computer Vision (ECCV)***, 2020.

10 Shuo Wang#, **Yuexiang Li***, Kai Ma, Ruhui Ma*, Haibing Guan, and Yefeng Zheng: Dual adversarial network for deep active learning, ***European Conference on Computer Vision (ECCV)***, 2020.

11 Hong Wang#, Qi Xie*, **Yuexiang Li***, Yawen Huang, Deyu Meng, and Yefeng Zheng: Orientation-shared convolution representation for CT metal artifact learning, ***International Conference on Medical Image Computing and Computer Assisted Interventions (MICCAI)***, 2022.

12 Wentian Zhang#, Xu Sun#*, **Yuexiang Li#**, Haozhe Liu, Nanjun He, Feng Liu* et al.: A multi-task network with weight decay skip connection training for anomaly detection in retinal fundus images, ***International Conference on Medical Image Computing and Computer Assisted Interventions (MICCAI)***, 2022.

13 Haoqin Ji#, Haozhe Li#, **Yuexiang Li#**, Jinheng Xie, Nanjun He*, Yawen Huang et al.: Point beyond class: A benchmark for weakly semi-supervised abnormality localization in chest X-rays, ***International Conference on Medical Image Computing and Computer Assisted Interventions (MICCAI)***, 2022.

14 **Yuexiang Li#***, Yanping Wang#, Guang Lin, Yi Lin, Dong Wei, Qirui Zhang et al.: Triplet-branch network with prior-knowledge embedding for fatigue fracture grading, ***International Conference on Medical Image Computing and Computer Assisted Interventions (MICCAI)***, 2021.

15 **Yuexiang Li#***, Nanjun He, Sixiang Peng, Kai Ma, and Yefeng Zheng: Deep reinforcement exemplar learning for annotation refinement, ***International Conference on Medical Image Computing and Computer Assisted Interventions (MICCAI)***, 2021.

16 **Yuexiang Li#***, Jiawei Chen, Xinpeng Xie, Kai Ma, and Yefeng Zheng: Self-Loop uncertainty: A novel pseudo-label for semi-supervised medical image segmentation, ***International Conference on Medical Image Computing and Computer Assisted Interventions (MICCAI)***, 2020.

17 Xing Tao#, **Yuexiang Li***, Wenhui Zhou, Kai Ma, and Yefeng Zheng: Revisiting Rubik's cube: Self-supervised learning with volume-wise transformation for 3D medical image segmentation, ***International Conference on Medical Image Computing and Computer Assisted Interventions (MICCAI)***, 2020.

18 Xinpeng Xie#, Jiawei Chen#, **Yuexiang Li***, Linlin Shen, Kai Ma, and Yefeng Zheng: Instance-aware self-supervised learning for nuclei segmentation, ***International Conference on Medical Image Computing and Computer Assisted Interventions (MICCAI)***, 2020.

19 Xinrui Zhuang#, **Yuexiang Li***, Yifan Hu, Kai Ma, Yujiu Yang*, and Yefeng Zheng: Self-supervised feature learning for 3D medical images by playing a Rubik's cube, ***International Conference on Medical Image Computing and Computer Assisted Interventions (MICCAI)***, 2019.

- **Others**

20 Ziqi Zhang#, **Yuexiang Li***, Hongxin Wei, Kai Ma, Tao Xu, and Yefeng Zheng: Alleviating noisy-label effects in image classification via probability transition matrix, ***British Machine Vision Conference (BMVC)***, 2021.

21 **Yuexiang Li**#, Xinpeng Xie#, Shaoxiong Liu, Xuechen Li, and Linlin Shen*: GT-Net: A deep learning network for gastric tumor diagnosis, ***International Conference on Tools with Artificial Intelligence (ICTAI)***, 2018.

22 **Yuexiang Li**#, Linlin Shen*, Xiande Zhou, and Sinqi Yu: HEp-2 specimen classification with fully convolutional network, ***International Conference on Pattern Recognition (ICPR)***, 2016.

23 **Yuexiang Li**#, Jiawei Chen, Kai Ma, and Yefeng Zheng*: Feature library: A benchmark for cervical lesion segmentation, ***International Conference on Information Processing in Medical Imaging (IPMI)***, 2021.

24 Xing Tao#, Chenglang Yuan, Cheng Bian*, **Yuexiang Li***, Kai Ma, Dong Ni, and Yefeng Zheng: The winner of AGE challenge: Going one step further from keypoint detection to scleral spur localization, ***International Symposium on Biomedical Imaging (ISBI)***, 2021.

25 **Yuexiang Li**#*, Jiawei Chen, and Yefeng Zheng: A multi-task self-supervised learning framework for scopy images, ***International Symposium on Biomedical Imaging (ISBI)***, 2020.

26 **Yuexiang Li**#, Xuechen Li, Xinpeng Xie, and Linlin Shen*: Deep learning based gastric cancer identification, ***International Symposium on Biomedical Imaging (ISBI)***, 2018.

27 Yu Chen#, Jiawei Chen, Dong Wei, **Yuexiang Li***, and Yefeng Zheng: OctopusNet: A deep learning segmentation network for multi-modal medical images, ***International Workshop on Multiscale Multimodal Medical Imaging (MMMI)***, 2019. (*Best paper)*

Journal Paper

Only listing the publications as First Author# / Corresponding Author (IF: Impact Factor)*

- **JCR Q1**

1 Yawen Huang#, Hao Zheng, **Yuexiang Li***, Feng Zheng, Xiantong Zhen, GuoJun Qi, Ling Shao, and Yefeng Zheng*: Multi-constraint transferable generative adversarial networks for cross-modal brain image synthesis, ***International Journal of Computer Vision (IJCV)***, 2024. (IF = 19.500)

2 **Yuexiang Li**#, Zhi-Hua Liu#, Peng Xue, Jiawei Chen, Kai Ma, Tianyi Qian et al.: GRAND: A large-scale dataset and benchmark for cervical intraepithelial neoplasia grading with fine-grained lesion description, ***Medical Image Analysis (MIA)***, 2021. (IF = 10.900)

3 Jiuwen Zhu#, **Yuexiang Li***, Yifan Hu, S. Kevin Zhou, Kai Ma, and Yefeng Zheng: Rubik's cube+: A self-supervised feature learning framework for 3D medical image analysis, ***Medical Image Analysis (MIA)***, 2020. (IF = 10.900)

4 Qingsong Xie#, **Yuexiang Li**#, Nanjun He*, Munan Ning, Kai Ma, Guoxing Wang et al.: Unsupervised domain adaptation for medical image segmentation by disentanglement learning and self-training, ***IEEE Transactions on Medical Imaging (TMI)***, 2024. (IF = 10.600)

5 Jiawei Chen#, Ziqi Zhang#, Xinpeng Xie#, **Yuexiang Li***, Tao Xu, Kai Ma, and Yefeng Zheng: Beyond mutual information: Generative adversarial network for domain adaptation using information bottleneck constraint, ***IEEE Transactions on Medical Imaging (TMI)***, 2021. (IF = 10.600)

6 Hong Wang#, **Yuexiang Li***, Nanjun He, Kai Ma, Deyu Meng*, and Yefeng Zheng: DICDNet: Deep interpretable convolutional dictionary network for metal artifact reduction in CT images, ***IEEE Transactions on Medical Imaging (TMI)***, 2021. (IF = 10.600)

7 He Zhao#, **Yuexiang Li***, Nanjun He, Kai Ma, Leyuan Fang, Huiqi Li* et al.: Anomaly detection for medical images using self-supervised and translation-consistent features, ***IEEE Transactions on Medical Imaging (TMI)***, 2021. (IF = 10.600)

8 **Yuexiang Li**#, Jiawei Chen#, Peng Xue, Chao Tang, Jia Chang, Chunyan Chu et al.: Computer-aided cervical cancer diagnosis using time-lapsed colposcopic images, ***IEEE Transactions on Medical Imaging (TMI)***, 2020. (IF = 10.600)

9 **Yuexiang Li**#, Linlin Shen*, and Shiqi Yu: HEp-2 specimen image segmentation and classification using very deep fully convolutional network, ***IEEE Transactions on Medical Imaging (TMI)***, 2017. (IF = 10.600)

10 Yunlu Yan#, Hong Wang#, Yawen Huang, Nanjun He, Lei Zhu*, Yong Xu, **Yuexiang Li***, and Yefeng Zheng: Cross-modal vertical federated learning for MRI reconstruction, ***IEEE Journal of Biomedical and Health Informatics (JBHI)***, 2024. (IF = 7.700)

11 **Yuexiang Li**#, Jiawei Chen#, Dong Wei#, Yanchun Zhu, Jianrong Wu, Junfeng Xiong et al.: Mix-and-Interpolate: A training strategy to deal with source-biased medical data, ***IEEE Journal of Biomedical and Health Informatics (JBHI)***, 2021. (IF = 7.700)

12 **Yuexiang Li**[#], Dong Wei[#], Jiawei Chen[#], Shilei Cao, Hongyu Zhou, Yanchun Zhu et al.: Efficient and effective training of COVID-19 classification networks with self-supervised dual-track learning to rank, ***IEEE Journal of Biomedical and Health Informatics (JBHI)***, 2020. (IF = 7.700)

13 Wentian Zhang[#], Haozhe Liu[#], Jinheng Xie, Yawen Huang, Yu Zhang, **Yuexiang Li***, Raghavendra Ramachandra, and Yefeng Zheng: Anomaly detection via gating highway connection for retinal fundus images, ***Pattern Recognition***, 2023. (IF = 8.000)

14 **Yuexiang Li**[#]*, Yanping Wang, Guang Lin, Yawen Huang, Jingxin Liu, Yi Lin, Dong Wei, Qirui Zhang, Kai Ma et al.: Triplet-branch network with contrastive prior-knowledge embedding for disease grading, ***Artificial Intelligence In Medicine***, 2024. (IF = 7.500)

- **Others**

15 Yanping Wang[#], **Yuexiang Li**[#], Guang Lin, Qirui Zhang, Jing Zhong, Yan Zhang et al.: Lower-extremity fatigue fracture detection and grading based on deep learning models of radiographs, ***European Radiology***, 2022. (IF = 5.900)

16 **Yuexiang Li**[#], Xinpeng Xie, Linlin Shen*, and Shaoxiong Liu: Reverse active learning based atrous DenseNet for pathological image classification, ***BMC Bioinformatics***, 2019. (IF = 3.000)

17 **Yuexiang Li**[#], and Linlin Shen*: HEp-Net: A smaller and better deep-learning network for HEp-2 cell classification, ***Computer Methods in Biomechanics and Biomedical Engineering: Imaging & Visualization***, 2018. (IF = 1.600)

AWARD

Cerebral Aneurysm Detection Challenge Virtual
MICCAI *2020*
- First Prize in Rupture Risk Estimation.

Angle Closure Glaucoma Evaluation Challenge Shenzhen, China
MICCAI *2019*
- First Prize in Angle Closure Classification & Scleral Spur Localization.

HEp-2 Indirect Immuno-Fluorescence Contest Cancun, Mexico
ICPR *2016*
- First Prize in HEp-2 Specimen Classification & Segmentation.

INTERN

PhD Students
- **Jinheng Xie** (Dec. 2021 - Jul. 2023) PhD student in National University of Singapore
- **Wentian Zhang** (Sep. 2021 - Jul. 2023) PhD student in in University of Chinese Academy of Sciences, co-supervised with Prof. Ling Shao
- **Haozhe Liu** (Aug. 2021 - Jul. 2023) PhD student in King Abdullah University of Science and Technology, co-supervised with Prof. Jürgen Schmidhuber
- **Yunlu Yan** (Aug. 2021 - Oct. 2022) PhD student in Hong Kong University of Science and Technology (Guangzhou)
- **He Zhao** (Mar. 2021 - Jul. 2021) PhD student in Beijing Institute of Technology
- **Quanziang Wang** (Feb. 2021 - Nov. 2021) PhD student in Xi'an Jiaotong University, co-supervised with Prof. Deyu Meng
- **Ziqi Zhang** (Dec. 2020 - Apr. 2022) PhD student in Tsinghua University (Shenzhen)
- **Hong Wang** (Nov. 2020 - Feb. 2022) PhD student in Xi'an Jiaotong University, co-supervised with Prof. Deyu Meng
- **Xing Tao** (May 2019 - Sep. 2019) PhD student in Shenzhen University

Master Students
- **Haoqin Ji** (Jul. 2021 - Jul. 2022) Master student in Shenzhen University
- **Heqin Zhu** (Jun. 2021 - Nov. 2021) Master student in University of Science and Technology of China, co-supervised with Prof. Kevin S. Zhou, *IEEE Fellow*
- **Shuo Wang** (Oct. 2019 - Mar. 2020) Master student in Shanghai Jiao Tong University
- **Xinpeng Xie** (Aug. 2019 - Jul. 2020) Master student in Shenzhen University
- **Jiuwen Zhu** (Jun. 2019 - Sep. 2019) Master student in University of Science and Technology of China, co-supervised with Prof. Kevin S. Zhou, *IEEE Fellow*
- **Xinrui Zhuang** (Dec. 2018 - Mar. 2019) Master student in Tsinghua University (Shenzhen)
- **Yu Chen** (Jun. 2018 - Sep. 2018) Master student in Nanjing University

PROFESSIONAL SERVICE

Leading Organizer

- Cross-Scanner Adenocarcinoma Segmentation (COSAS 2024) Challenge @ MICCAI 2024

Area Chair

- The 27th International Conference on Medical Image Computing and Computer Assisted Interventions (MICCAI 2024)
- The 26th International Conference on Medical Image Computing and Computer Assisted Interventions (MICCAI 2023)

Senior Program Committee

- The 33rd International Joint Conference on Artificial Intelligence (IJCAI 2024)
- The 32nd International Joint Conference on Artificial Intelligence (IJCAI 2023)

Program Committee

- The 39th AAAI Conference on Artificial Intelligence (AAAI 2025)
- The 38th AAAI Conference on Artificial Intelligence (AAAI 2024)
- The 37th AAAI Conference on Artificial Intelligence (AAAI 2023)
- The 36th AAAI Conference on Artificial Intelligence (AAAI 2022)
- The 35th AAAI Conference on Artificial Intelligence (AAAI 2021)

Journal Reviewer

- IEEE Transactions on Pattern Analysis and Machine Intelligence
- IEEE Transactions on Neural Networks and Learning System
- IEEE Transactions on Medical Imaging
- IEEE Journal of Biomedical and Health Informatics
- Medical Image Analysis

Conference Reviewer

- IEEE Conference on Computer Vision and Pattern Recognition (CVPR)
- International Conference on Computer Vision (ICCV)
- European Conference on Computer Vision (ECCV)
- International Conference on Machine Learning (ICML)
- Annual Conference on Neural Information Processing Systems (NeurIPS)
- AAAI Conference on Artificial Intelligence (AAAI)
- International Joint Conference on Artificial Intelligence (IJCAI)
- British Machine Vision Conference (BMVC)
- International Conference on Medical Image Computing and Computer Assisted Interventions (MICCAI)
- International Symposium on Biomedical Imaging (ISBI)

李悦翔

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研究方向

计算机视觉，医学图像分析，计算机辅助诊断，自然语言/视觉大模型，自监督

教育背景

电子工程博士 十月 2012 - 七月 2016
英国诺丁汉大学（University of Nottingham, Nottingham）
世界排名第 130 位 | Times Higher Education
导师: John Crowe & Siu-Yeung Cho & Tommy W.S. Chow, *IEEE Fellow* (External)

电子工程硕士 九月 2011 - 六月 2012
香港科技大学（Hong Kong University of Science and Technology）

电信工程学士 九月 2007 - 七月 2011
北京邮电大学（Beijing University of Posts and Telecommunications）

工作经历

教授 | 广西医科大学 南宁
生命科学研究院 七月 *2023* - 今
- 智能医学学科带头人
- 组建 Medical AI ReSearch (MARS) 课题组
- 专注临床场景下的医学人工智能研究
- 实现包括大语言模型、智能诊断在内的多个人工智能研究成果转化

高级研究员 | 腾讯 深圳
腾讯天衍研究中心 十二月 *2019* - 七月 *2023*
- 实验室负责人：郑冶枫, *IEEE Fellow*
- 负责新冠肺炎 AI 辅助诊断系统的开发与落地
- 引擎已部署到武汉、广州多家医院，新冠肺炎敏感度超越医生平均水平

高级研究员 | 腾讯 深圳
优图实验室 五月 *2018* - 十二月 *2019*
- 实验室负责人：贾佳亚, *IEEE Fellow*
- 负责用于宫颈癌筛查的 AI 电子阴道镜的开发与落地
- 国内首款智能阴道镜
- 产品部署到多家医院，实现盈利

博士后 | 深圳大学 深圳
计算机视觉研究所 七月 *2016* - 五月 *2018*
- 负责显微图像自动处理算法的开发与研究

行业兼职

客座教授 | 广东省人民医院 广州
广东省医学影像智能分析与应用重点实验室 八月 *2024* - 今
- 实验室负责人：刘再毅，国家杰青
- 开展多模态前列腺癌智能诊断相关研究

首席科学家 | 广西精准医学产业技术研究院 南宁
人工智能中心 四月 *2024* - 今
- 管理医学人工智能技术研发团队
- 从事多模态医疗大模型方向研究与成果转化
- 旨在研发对多种疾病保持鲁棒性能的病变分级人工智能算法

项目经历

医学多模态基础模型 广西精准医学产业技术研究院
项目负责人 一月 *2024* - 今

- 整合医学图像（MRI、CT 等）、患者检验结果及入院主述等多模态信息，开发医学多模态基础模型
- 所开发模型计划在临床场景下对多种疾病实现稳定精确的病变分级，达到准确分级诊疗的目的
- 在病变分级任务的基础上进一步拓展模型功能，实现包括多疾病病灶分割等多种临床任务

危重病房智能预警系统 广西医科大学第一附属医院
项目负责人 十月 *2023* - 今

- 与深圳迈瑞医疗公司合作开发重症预警系统
- 所开发系统基于多模态大模型技术，通过接入迈瑞危重监测仪器，实现智能监控患者病情与及时预警等功能
- 该系统已在广西医科大学第一附属医院进行灰度测试

医疗影像国家新一代人工智能开放创新平台 腾讯
项目骨干 十一月 *2020* - 三月 *2023*

- 打造医学影像科研平台，赋能医院、科研院所，助力医学人工智能产学研创新合作与成果转化
- 前沿的医疗影像 AI 算法开发，部署上云
- 开发人工智能医疗影像实践课程

疲劳骨折分级系统 腾讯
项目负责人 十月 *2020* - 十月 *2021*

- 与东部战区总医院合作开发 AI 辅助疲劳骨折分级系统，用于降低运队员和军人罹患疲劳骨折的风险
- 项目依托国家级重大专项，目前已成功验收并落地东部战区总医院
- 与医生合作发表多篇临床医学学术论文

新冠肺炎 AI 辅辅助诊断系统 腾讯
项目负责人 二月 *2020* - 八月 *2021*

- 负责新冠肺炎辅助诊断系统开发的全部流程（包括 AI 引擎开发、工程化及 NMPA 三类证申请）
- 引擎开发初期，带领团队快速迭代引擎并成功通过移动 CT 车的方式落地部署到武汉、广州多家医院
- 2021 年八月获得 BAT 中首张 NMPA 三类证

基于阴道镜的 AI 辅辅助宫颈癌筛查系统 腾讯
项目负责人 九月 *2018* - 七月 *2023*

- 带领团队开发包括阴道镜图像质量检测、初步拟诊、病灶分割及活检点预测等 7 个功能模块
- 所开发的 AI 引擎通过科研合作的方式实现赢利，目前已进入 NMPA 三类证申请流程
- 与医生合作产出多篇期刊、会议学术论文

科研经费

中华人民共和国科学技术部，科技创新 2030-“新一代人工智能”重大项目 中国
项目骨干 十一月 *2020* - 十月 *2024*

- 肿瘤多学科辅助诊疗的跨模态医学影像综合分析，基金号 2020AAA0109501，562 万元，在研

国家自然科学基金青年基金 中国
项目负责人 一月 *2018* - 十二月 *2020*

- 基于深度学习的三维细胞图像分割技术的研究，基金号 61702337，25 万元，已结题

中国博士后基金 中国
项目负责人 十二月 *2017* - 七月 *2018*

- 三维细胞图像智能分割算法的研究，基金号 2017M622779，5 万元，已结题

发表论文

共发表 **70+** 学术论文; 累计影响因子达 **150+**.

会议论文
此处只列举作为**第一作者 # / 通讯作者 *** 的论文

- **CCF-A**

1 Haozhe Liu#, Wentian Zhang#, Bing Li*, Haoqian Wu, Nanjun He, Yawen Huang, **Yuexiang Li***, Bernard Ghanem, and Yefeng Zheng: AdaptiveMix: Improving GAN training via feature space shrinkage, ***IEEE Conference on Computer Vision and Pattern Recognition (CVPR)***, 2023.

2 Jinheng Xie#, **Yuexiang Li***, Yawen Huang, Haozhe Liu, Wentian Zhang, Yefeng Zheng, and Mike Zheng Shou*: BoxDiff: Text-to-image synthesis with training-free box-constrained Diffusion, ***International Conference on Computer Vision (ICCV)***, 2023.

3 Wentian Zhang#, Haozhe Liu#, Bing Li*, Jinheng Xie, Yawen Huang, **Yuexiang Li*** et al.: Dynamically masked discriminator for generative adversarial networks, ***Neural Information Processing Systems (NeurIPS)***, 2023.

4 Qi Bi#, Jingjun Yi#, Hao Zheng*, Wei Ji, Yawen Huang, **Yuexiang Li***, and Yefeng Zheng: Learning generalized medical image segmentation from decoupled feature queries, ***AAAI Conference on Artificial Intelligence (AAAI)***, 2024.

5 Haozhe Liu#, Bing Li*, Haoqian Wu, Hanbang Liang, Yawen Huang, **Yuexiang Li***, Bernard Ghanem, and Yefeng Zheng: Combating mode collapse in GANs via manifold entropy estimation, ***AAAI Conference on Artificial Intelligence (AAAI)*** **(Oral)**, 2023.

6 Jiawei Chen#, **Yuexiang Li***, Kai Ma, and Yefeng Zheng: Generative adversarial networks for video-to-video domain adaptation, ***AAAI Conference on Artificial Intelligence (AAAI)***, 2020.

7 Hong Wang#, **Yuexiang Li***, Deyu Meng*, and Yefeng Zheng: Adaptive convolutional dictionary network for CT metal artifact reduction, ***International Joint Conference on Artificial Intelligence (IJCAI)***, 2022.

8 Jingjun Yi#, Qi Bi, Hao Zheng*, Haolan Zhan, Wei Ji, Yawen Huang, **Yuexiang Li***, and Yefeng Zheng: Learning spectral-decomposited tokens for domain generalized semantic segmentation, ***ACM International Conference on Multimedia (MM)***, 2024.

- **CCF-B**

9 Xinpeng Xie#, Jiawei Chen#, **Yuexiang Li***, Linlin Shen, Kai Ma, and Yefeng Zheng: Self-supervised CycleGAN for object-preserving image-to-image domain adaptation, ***European Conference on Computer Vision (ECCV)***, 2020.

10 Shuo Wang#, **Yuexiang Li***, Kai Ma, Ruhui Ma*, Haibing Guan, and Yefeng Zheng: Dual adversarial network for deep active learning, ***European Conference on Computer Vision (ECCV)***, 2020.

11 Hong Wang#, Qi Xie*, **Yuexiang Li***, Yawen Huang, Deyu Meng, and Yefeng Zheng: Orientation-shared convolution representation for CT metal artifact learning, ***International Conference on Medical Image Computing and Computer Assisted Interventions (MICCAI)***, 2022.

12 Wentian Zhang#, Xu Sun#*, **Yuexiang Li#**, Haozhe Liu, Nanjun He, Feng Liu* et al.: A multi-task network with weight decay skip connection training for anomaly detection in retinal fundus images, ***International Conference on Medical Image Computing and Computer Assisted Interventions (MICCAI)***, 2022.

13 Haoqin Ji#, Haozhe Li#, **Yuexiang Li#**, Jinheng Xie, Nanjun He*, Yawen Huang et al.: Point beyond class: A benchmark for weakly semi-supervised abnormality localization in chest X-rays, ***International Conference on Medical Image Computing and Computer Assisted Interventions (MICCAI)***, 2022.

14 **Yuexiang Li#***, Yanping Wang#, Guang Lin, Yi Lin, Dong Wei, Qirui Zhang et al.: Triplet-branch network with prior-knowledge embedding for fatigue fracture grading, ***International Conference on Medical Image Computing and Computer Assisted Interventions (MICCAI)***, 2021.

15 **Yuexiang Li#***, Nanjun He, Sixiang Peng, Kai Ma, and Yefeng Zheng: Deep reinforcement exemplar learning for annotation refinement, ***International Conference on Medical Image Computing and Computer Assisted Interventions (MICCAI)***, 2021.

16 **Yuexiang Li#***, Jiawei Chen, Xinpeng Xie, Kai Ma, and Yefeng Zheng: Self-Loop uncertainty: A novel pseudo-label for semi-supervised medical image segmentation, ***International Conference on Medical Image Computing and Computer Assisted Interventions (MICCAI)***, 2020.

17 Xing Tao#, **Yuexiang Li***, Wenhui Zhou, Kai Ma, and Yefeng Zheng: Revisiting Rubik's cube: Self-supervised learning with volume-wise transformation for 3D medical image segmentation, ***International Conference on Medical Image Computing and Computer Assisted Interventions (MICCAI)***, 2020.

18 Xinpeng Xie#, Jiawei Chen#, **Yuexiang Li***, Linlin Shen, Kai Ma, and Yefeng Zheng: Instance-aware self-supervised learning for nuclei segmentation, ***International Conference on Medical Image Computing and Computer Assisted Interventions (MICCAI)***, 2020.

19 Xinrui Zhuang#, **Yuexiang Li***, Yifan Hu, Kai Ma, Yujiu Yang*, and Yefeng Zheng: Self-supervised feature learning for 3D medical images by playing a Rubik's cube, ***International Conference on Medical Image Computing and Computer Assisted Interventions (MICCAI)***, 2019.

- **其他**

20 Ziqi Zhang#, **Yuexiang Li***, Hongxin Wei, Kai Ma, Tao Xu, and Yefeng Zheng: Alleviating noisy-label effects in image classification via probability transition matrix, ***British Machine Vision Conference (BMVC)***, 2021.

21 **Yuexiang Li**#, Xinpeng Xie#, Shaoxiong Liu, Xuechen Li, and Linlin Shen*: GT-Net: A deep learning network for gastric tumor diagnosis, ***International Conference on Tools with Artificial Intelligence (ICTAI)***, 2018.

22 **Yuexiang Li**#, Linlin Shen*, Xiande Zhou, and Sinqi Yu: HEp-2 specimen classification with fully convolutional network, ***International Conference on Pattern Recognition (ICPR)***, 2016.

23 **Yuexiang Li**#, Jiawei Chen, Kai Ma, and Yefeng Zheng*: Feature library: A benchmark for cervical lesion segmentation, ***International Conference on Information Processing in Medical Imaging (IPMI)***, 2021.

24 Xing Tao#, Chenglang Yuan, Cheng Bian*, **Yuexiang Li***, Kai Ma, Dong Ni, and Yefeng Zheng: The winner of AGE challenge: Going one step further from keypoint detection to scleral spur localization, ***International Symposium on Biomedical Imaging (ISBI)***, 2021.

25 **Yuexiang Li**#*, Jiawei Chen, and Yefeng Zheng: A multi-task self-supervised learning framework for scopy images, ***International Symposium on Biomedical Imaging (ISBI)***, 2020.

26 **Yuexiang Li**#, Xuechen Li, Xinpeng Xie, and Linlin Shen*: Deep learning based gastric cancer identification, ***International Symposium on Biomedical Imaging (ISBI)***, 2018.

27 Yu Chen#, Jiawei Chen, Dong Wei, **Yuexiang Li***, and Yefeng Zheng: OctopusNet: A deep learning segmentation network for multi-modal medical images, ***International Workshop on Multiscale Multimodal Medical Imaging (MMMI)***, 2019. (*Best paper)*

期刊论文

此处只列举作为**第一作者 #** / **通讯作者 *** 的论文

- **JCR Q1**

1 Yawen Huang#, Hao Zheng, **Yuexiang Li***, Feng Zheng, Xiantong Zhen, GuoJun Qi, Ling Shao, and Yefeng Zheng*: Multi-constraint transferable generative adversarial networks for cross-modal brain image synthesis, ***International Journal of Computer Vision (IJCV)***, 2024. (IF = 19.500)

2 **Yuexiang Li**#, Zhi-Hua Liu#, Peng Xue, Jiawei Chen, Kai Ma, Tianyi Qian et al.: GRAND: A large-scale dataset and benchmark for cervical intraepithelial neoplasia grading with fine-grained lesion description, ***Medical Image Analysis (MIA)***, 2021. (IF = 10.900)

3 Jiuwen Zhu#, **Yuexiang Li***, Yifan Hu, S. Kevin Zhou, Kai Ma, and Yefeng Zheng: Rubik' s cube+: A self-supervised feature learning framework for 3D medical image analysis, ***Medical Image Analysis (MIA)***, 2020. (IF = 10.900)

4 Qingsong Xie#, **Yuexiang Li**#, Nanjun He*, Munan Ning, Kai Ma, Guoxing Wang et al.: Unsupervised domain adaptation for medical image segmentation by disentanglement learning and self-training, ***IEEE Transactions on Medical Imaging (TMI)***, 2024. (IF = 10.600)

5 Jiawei Chen#, Ziqi Zhang#, Xinpeng Xie#, **Yuexiang Li***, Tao Xu, Kai Ma, and Yefeng Zheng: Beyond mutual information: Generative adversarial network for domain adaptation using information bottleneck constraint, ***IEEE Transactions on Medical Imaging (TMI)***, 2021. (IF = 10.600)

6 Hong Wang#, **Yuexiang Li***, Nanjun He, Kai Ma, Deyu Meng*, and Yefeng Zheng: DICDNet: Deep interpretable convolutional dictionary network for metal artifact reduction in CT images, ***IEEE Transactions on Medical Imaging (TMI)***, 2021. (IF = 10.600)

7 He Zhao#, **Yuexiang Li***, Nanjun He, Kai Ma, Leyuan Fang, Huiqi Li* et al.: Anomaly detection for medical images using self-supervised and translation-consistent features, ***IEEE Transactions on Medical Imaging (TMI)***, 2021. (IF = 10.600)

8 **Yuexiang Li**#, Jiawei Chen#, Peng Xue, Chao Tang, Jia Chang, Chunyan Chu et al.: Computer-aided cervical cancer diagnosis using time-lapsed colposcopic images, ***IEEE Transactions on Medical Imaging (TMI)***, 2020. (IF = 10.600)

9 **Yuexiang Li**#, Linlin Shen*, and Shiqi Yu: HEp-2 specimen image segmentation and classification using very deep fully convolutional network, ***IEEE Transactions on Medical Imaging (TMI)***, 2017. (IF = 10.600)

10 Yunlu Yan#, Hong Wang#, Yawen Huang, Nanjun He, Lei Zhu*, Yong Xu, **Yuexiang Li***, and Yefeng Zheng: Cross-modal vertical federated learning for MRI reconstruction, ***IEEE Journal of Biomedical and Health Informatics (JBHI)***, 2024. (IF = 7.700)

11 **Yuexiang Li**#, Jiawei Chen#, Dong Wei#, Yanchun Zhu, Jianrong Wu, Junfeng Xiong et al.: Mix-and-Interpolate: A training strategy to deal with source-biased medical data, ***IEEE Journal of Biomedical and Health Informatics (JBHI)***, 2021. (IF = 7.700)

12 **Yuexiang Li**#, Dong Wei#, Jiawei Chen#, Shilei Cao, Hongyu Zhou, Yanchun Zhu et al.: Efficient and effective training of COVID-19 classification networks with self-supervised dual-track learning to rank, ***IEEE Journal of Biomedical and Health Informatics (JBHI)***, 2020. (IF = 7.700)

13 Wentian Zhang#, Haozhe Liu#, Jinheng Xie, Yawen Huang, Yu Zhang, **Yuexiang Li***, Raghavendra Ramachandra, and Yefeng Zheng: Anomaly detection via gating highway connection for retinal fundus images, ***Pattern Recognition***, 2023. (IF = 8.000)

14 **Yuexiang Li**[#]*****, Yanping Wang, Guang Lin, Yawen Huang, Jingxin Liu, Yi Lin, Dong Wei, Qirui Zhang, Kai Ma et al.: Triplet-branch network with contrastive prior-knowledge embedding for disease grading, ***Artificial Intelligence In Medicine***, 2024. (IF = 7.500)

- **其他**

15 Yanping Wang[#], **Yuexiang Li**[#], Guang Lin, Qirui Zhang, Jing Zhong, Yan Zhang et al.: Lower-extremity fatigue fracture detection and grading based on deep learning models of radiographs, ***European Radiology***, 2022. (IF = 5.900)

16 **Yuexiang Li**[#], Xinpeng Xie, Linlin Shen*, and Shaoxiong Liu: Reverse active learning based atrous DenseNet for pathological image classification, ***BMC Bioinformatics***, 2019. (IF = 3.000)

17 **Yuexiang Li**[#], and Linlin Shen*: HEp-Net: A smaller and better deep-learning network for HEp-2 cell classification, ***Computer Methods in Biomechanics and Biomedical Engineering: Imaging & Visualization***, 2018. (IF = 1.600)

获奖情况

Cerebral Aneurysm Detection Challenge 线上
MICCAI *2020*

- 动脉瘤破裂风险预测冠军

Angle Closure Glaucoma Evaluation Challenge 深圳
MICCAI *2019*

- 开闭角青光眼分类及房角检测冠军

HEp-2 Indirect Immuno-Fluorescence Contest 墨西哥
ICPR *2016*

- HEp-2 细胞样本分类与分割冠军

实习生培养

博士生（PhD Students）

- **Jinheng Xie** (Dec. 2021 - Jul. 2023) PhD student in National University of Singapore
- **Wentian Zhang** (Sep. 2021 - Jul. 2023) PhD student in in University of Chinese Academy of Sciences, co-supervised with Prof. Ling Shao
- **Haozhe Liu** (Aug. 2021 - Jul. 2023) PhD student in King Abdullah University of Science and Technology, co-supervised with Prof. Jürgen Schmidhuber
- **Yunlu Yan** (Aug. 2021 - Oct. 2022) PhD student in Hong Kong University of Science and Technology (Guangzhou)
- **He Zhao** (Mar. 2021 - Jul. 2021) PhD student in Beijing Institute of Technology
- **Quanziang Wang** (Feb. 2021 - Nov. 2021) PhD student in Xi'an Jiaotong University, co-supervised with Prof. Deyu Meng
- **Ziqi Zhang** (Dec. 2020 - Apr. 2022) PhD student in Tsinghua University (Shenzhen)
- **Hong Wang** (Nov. 2020 - Feb. 2022) PhD student in Xi'an Jiaotong University, co-supervised with Prof. Deyu Meng
- **Xing Tao** (May 2019 - Sep. 2019) PhD student in Shenzhen University

硕士生（Master Students）

- **Haoqin Ji** (Jul. 2021 - Jul. 2022) Master student in Shenzhen University
- **Heqin Zhu** (Jun. 2021 - Nov. 2021) Master student in University of Science and Technology of China, co-supervised with Prof. Kevin S. Zhou, *IEEE Fellow*
- **Shuo Wang** (Oct. 2019 - Mar. 2020) Master student in Shanghai Jiao Tong University
- **Xinpeng Xie** (Aug. 2019 - Jul. 2020) Master student in Shenzhen University
- **Jiuwen Zhu** (Jun. 2019 - Sep. 2019) Master student in University of Science and Technology of China, co-supervised with Prof. Kevin S. Zhou, *IEEE Fellow*
- **Xinrui Zhuang** (Dec. 2018 - Mar. 2019) Master student in Tsinghua University (Shenzhen)
- **Yu Chen** (Jun. 2018 - Sep. 2018) Master student in Nanjing University

专业服务

赛事主席 (Leading Organizer)

- Cross-Scanner Adenocarcinoma Segmentation (COSAS 2024) Challenge @ MICCAI 2024

领域主席 (Area Chair)

- The 27th International Conference on Medical Image Computing and Computer Assisted Interventions (MICCAI 2024)
- The 26th International Conference on Medical Image Computing and Computer Assisted Interventions (MICCAI 2023)

高级委员 (Senior Program Committee)
- The 33rd International Joint Conference on Artificial Intelligence (IJCAI 2024)
- The 32nd International Joint Conference on Artificial Intelligence (IJCAI 2023)

程序委员 (Program Committee)
- The 38th AAAI Conference on Artificial Intelligence (AAAI 2024)
- The 37th AAAI Conference on Artificial Intelligence (AAAI 2023)
- The 36th AAAI Conference on Artificial Intelligence (AAAI 2022)
- The 35th AAAI Conference on Artificial Intelligence (AAAI 2021)

期刊审稿人
- IEEE Transactions on Pattern Analysis and Machine Intelligence
- IEEE Transactions on Neural Networks and Learning System
- IEEE Transactions on Medical Imaging
- IEEE Journal of Biomedical and Health Informatics
- Medical Image Analysis

会议审稿人
- IEEE Conference on Computer Vision and Pattern Recognition (CVPR)
- International Conference on Computer Vision (ICCV)
- European Conference on Computer Vision (ECCV)
- International Conference on Machine Learning (ICML)
- Annual Conference on Neural Information Processing Systems (NeurIPS)
- AAAI Conference on Artificial Intelligence (AAAI)
- International Joint Conference on Artificial Intelligence (IJCAI)
- British Machine Vision Conference (BMVC)
- International Conference on Medical Image Computing and Computer Assisted Interventions (MICCAI)
- International Symposium on Biomedical Imaging (ISBI)