RUINING DENG

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EDUCATION

Vanderbilt University Nashville, TN
Doctor of Philosophy, Computer Science, GPA: 3.89/4.0 Exp. June 2024
Thesis topic: *Knowledge-infused Efficient Learning for Computational Pathology*
Advisor: Dr. Yuankai Huo

China University of Mining and Technology Beijing, China
Bachelor of Science, Information Engineering June 2019
GPA: 3.99/4.0 (Core GPA: 4.0/4.0), Rank: 1/31

AWARDS AND HONORS

- All-Conference Best Student Paper Award Finalist, SPIE Medical Imaging Feb 2024
- Graduate School Travel Award, Vanderbilt Feb 2022, Feb 2023, Feb 2024
- First-class Scholarship of the University (top 2%), CUMTB Nov 2016, Nov 2017
- Outstanding Graduate Award (top 4%), CUMTB June 2019
- Outstanding Graduation Thesis Award (top 8%), CUMTB June 2019

ACADEMIC POSITIONS

Vanderbilt University Nashville, TN
- Ph.D. Student, Biomedical Data Representation and Learning Lab Mar 2020 – Present
- Affiliated Student, Vanderbilt Institute for Surgery and Engineering Mar 2020 – Present

RESEARCH EXPERIENCE

Vanderbilt University Nashville, TN
- Research Assistant Mar 2020 – Present

Guangdong Provincial Cardiovascular Institute Guangzhou, China
- Research Staff June 2019 – Aug 2019

University of Notre Dame South Bend, IN
- Visiting Student (Advisor: Dr. Yiyu Shi) Jul 2018 – Sep 2018

TEACHING EXPERIENCE

Vanderbilt University Nashville, TN

- Guest Lecturer, CS-4267 Deep Learning Spring 2024
- Language Program Staff Member, Vanderbilt Center of Language Fall 2021 – Fall 2023
- Teaching Assistant, CS-3891 Deep Learning Spring 2021
- Teaching Assistant, DS-5660 Modeling and Machine Learning II Fall 2020
- Grader, EECE-5353-01 Image Processing Fall 2020

PROFESSIONAL EXPERIENCE

Roche Santa Clara, CA

- Imaging Scientist Intern (Supervisor: Dr. Yao Nie) May 2023 – Aug 2023

Bridge Investment Group Charlotte, NC

- Software Engineer Intern May 2020 – Aug 2020

PUBLICATION

Journal (First author)

[J10] **Deng, R.,** Cui, C., Remedios, L. W., Bao, S., Womick, R. M., Chiron, S., ... & Huo, Y. (2024). *Cross-scale Multi-instance Learning for Pathological Image Diagnosis.* Medical Image Analysis, 2024 103124.

[J9] **Deng, R.,** Liu, Q., Cui, C., Yao, T., Long, J., Asad, Z., ... & Huo, Y. (2023). *Omni-seg: A scale-aware dynamic network for renal pathological image segmentatio*n. IEEE Transactions on Biomedical Engineering, 2023. 70(9): p. 2623-2644.

[J8] **Deng, R.,** Yang, H., Jha, A., Lu, Y., Chu, P., Fogo, A. B., & Huo, Y. (2021). *Map3D: Registration-Based Multi-Object Tracking on 3D Serial Whole Slide Images.* IEEE transactions on medical imaging, 40(7), 1924-1933.

Journal (Co-author)

[J7] Xiong, J., Nguyen, E. H., Liu, Y., **Deng, R.,** Tyree, R. N., Correa, H., ... & Huo, Y. (2024). *Circle Representation for Medical Instance Object Segmentation*. Under review.

[J6] Yao, T., Rheault, F., Cai, L. Y., Nath, V., Asad, Z., Newlin, N., ... **Deng, R.,** ... & Huo, Y. (2024). *Robust fiber orientation distribution function estimation using deep constrained spherical deconvolution for diffusion-weighted magnetic resonance imaging.* Journal of Medical Imaging, 11(1), 014005-014005.

[J5] Yao, T., Qu, C., Long, J., Liu, Q., **Deng, R.,** Tian, Y., ... & Huo, Y. (2022). *Compound Figure Separation of Biomedical Images: Mining Large Datasets for Self-supervised Learning.* The journal of machine learning for biomedical imaging, 1.

[J4] Nguyen, E. H., Yang, H., **Deng, R.,** Lu, Y., Zhu, Z., Roland, J. T., ... & Huo, Y. (2021). *Circle representation for medical object detection.* IEEE transactions on medical imaging, 41(3), 746-754.

[J3] Liu, Q., Gaeta, I. M., Zhao, M., **Deng, R.,** Jha, A., Millis, B. A., ... & Huo, Y. (2021).

ASIST: annotation-free synthetic instance segmentation and tracking by adversarial simulations. Computers in biology and medicine, 134, 104501.

[J2] Huo, Y., **Deng, R.,** Liu, Q., Fogo, A. B., & Yang, H. (2021). *AI applications in renal pathology.* Kidney international, 99(6), 1309-1320.

[J1] Jha, A., Yang, H., **Deng, R.,** Kapp, M. E., Fogo, A. B., & Huo, Y. (2021). *Instance segmentation for whole slide imaging: end-to-end or detect-then-segment.* Journal of Medical Imaging, 8(1), 014001-014001.

Highly Selective Conference

[C43] **Deng, R.,** Liu Q.,Cui C., Yao T., Yue J., Xiong J., Yu L., Wu Y., … & Huo, Y. (2024). *PrPSeg: Universal Proposition Learning for Panoramic Renal Pathology Segmentation.* Computer Vision and Pattern Recognition Conference (CVPR) accepted.

[C42] **Deng, R.,** Li, Y., Li, P., Wang, J., Remedios, L. W., Agzamkhodjaev, S., ... & Huo, Y. (2023, October). *Democratizing Pathological Image Segmentation with Lay Annotators via Molecular-Empowered Learning.* In International Conference on Medical Image Computing and Computer-Assisted Intervention (pp. 497-507). Cham: Springer Nature Switzerland.

[C41] Cui, C., Liu, H., Liu, Q., **Deng, R.,** Asad, Z., Wang, Y., ... & Huo, Y. (2022, September). *Survival Prediction of Brain Cancer with Incomplete Radiology, Pathology, Genomic, and Demographic Data.* In International Conference on Medical Image Computing and Computer-Assisted Intervention (pp. 626-635). Cham: Springer Nature Switzerland.

[C40] Liu, Q., Louis, P. C., Lu, Y., Jha, A., Zhao, M., **Deng, R.,** ... & Huo, Y. (2021). Simtriplet: *Simple triplet representation learning with a single gpu.* In Medical Image Computing and Computer Assisted Intervention–MICCAI 2021: 24th International Conference, Strasbourg, France, September 27–October 1, 2021, Proceedings, Part II 24 (pp. 102-112). Springer International Publishing.

[C39] Yang, H., **Deng, R.,** Lu, Y., Zhu, Z., Chen, Y., Roland, J. T., ... & Huo, Y. (2020). *CircleNet: Anchor-free glomerulus detection with circle representation.* In Medical Image Computing and Computer Assisted Intervention–MICCAI 2020: 23rd International Conference, Lima, Peru, October 4–8, 2020, Proceedings, Part IV 23 (pp. 35-44). Springer International Publishing.

Full Length Conference (First author)

[C38] **Deng, R.,** Shaikh, N., Shannon, G., & Nie, Y. (2023). *Cross-modality Attention-based Multimodal Fusion for Non-small Cell Lung Cancer (NSCLC) Patient Survival Prediction.* In SPIE Medical Imaging 2024. **(SPIE Medical Imaging All-Conference Best Student Paper Award Finalist)**

[C37] Li, X., **Deng, R.,** Tang, Y., Bao, S., Yang, H., & Huo, Y. (2023). *Leverage Weakly Annotation to Pixel-wise Annotation via Zero-shot Segment Anything Model for Molecular-empowered Learning.* In SPIE Medical Imaging 2024. **(Co-first author, SPIE**

Medical Imaging All-Conference Best Student Paper Award Finalist)

[C36] Hu, F., **Deng, R.,** Bao, S., Yang, H., & Huo, Y. (2023). *Multi-scale Multi-site Renal Microvascular Structures Segmentation for Whole Slide Imaging in Renal Pathology.* In SPIE Medical Imaging 2024. **(Co-first author)**

[C35] **Deng, R.,** Cui, C., Liu, Q., Yao, T., Remedios, L. W., Bao, S., ... & Huo, Y. (2023). *Segment anything model (sam) for digital pathology: Assess zero-shot segmentation on whole slide imaging.* In International Conference on Medical Imaging with Deep Learning Short Paper Track. **(Co-first author)**

[C34] Leng, H., **Deng, R.,** Asad, Z., Womick, R. M., Yang, H., Wan, L., & Huo, Y. (2023, April). *An accelerated pipeline for multi-label renal pathology image segmentation at the whole slide image level.* In Medical Imaging 2023: Digital and Computational Pathology (Vol. 12471, pp. 174-179). SPIE. **(Co-first author)**

[C33] Li, P., **Deng, R.,** & Huo, Y. (2023, April). *An end-to-end pipeline for 3D slide-wise multi-stain renal pathology registration.* In Medical Imaging 2023: Digital and Computational Pathology (Vol. 12471, pp. 96-101). SPIE. **(Co-first author)**

[C32] **Deng, R.,** Liu, Q., Cui, C., Asad, Z., & Huo, Y. (2022, December). *Single Dynamic Network for Multi-label Renal Pathology Image Segmentation.* In International Conference on Medical Imaging with Deep Learning (pp. 304-314). PMLR.

[C31] **Deng, R.,** Cui, C., Remedios, L. W., Bao, S., Womick, R. M., Chiron, S., ... & Huo, Y. (2022, September). *Cross-Scale Attention Guided Multi-instance Learning for Crohn's Disease Diagnosis with Pathological Images.* In International Workshop on Multiscale Multimodal Medical Imaging (pp. 24-33). Cham: Springer Nature Switzerland.

[C30] **Deng, R.,** Yang, H., Asad, Z., Zhu, Z., Wang, S., Wheless, L. E., ... & Huo, Y. (2022, April). *Dense multi-object 3D glomerular reconstruction and quantification on 2D serial section whole slide images.* In Medical Imaging 2022: Digital and Computational Pathology (Vol. 12039, pp. 83-90). SPIE.

[C29] **Deng, R.,** Liu, Q., Bao, S., Jha, A., Chang, C., Millis, B. A., ... & Huo, Y. (2021). *CaCL: Class-Aware Codebook Learning for Weakly Supervised Segmentation on Diffuse Image Patterns.* In Deep Generative Models, and Data Augmentation, Labelling, and Imperfections: First Workshop, DGM4MICCAI 2021, and First Workshop, DALI 2021, Held in Conjunction with MICCAI 2021, Strasbourg, France, October 1, 2021, Proceedings 1 (pp. 93-102). Springer International Publishing.

Full Length Conference (Co-author)

[C28] Remedios, L. W., Bao, S., Remedios, S. W., Lee, H. H., Cai, L. Y., Li, T., ... **Deng, R.,** ... & Landman, B. A. (2024). *Nucleus subtype classification using inter-modality learning.* In SPIE Medical Imaging 2024.

[C27] Cui, C., Wang, Y., Bao, S., Tang, Y., **Deng, R.,** Remedios, L. W., ... & Huo, Y. (2023, October). *Feasibility of Universal Anomaly Detection Without Knowing the Abnormality in Medical Images.* In Workshop on Medical Image Learning with Limited and Noisy

Data (pp. 82-92). Cham: Springer Nature Switzerland.

[C26] Liu, M., Qi, C., Bao, S., Liu, Q., **Deng, R.,** Wang, Y., ... & Huo, Y. (2023). *Evaluation Kidney Layer Segmentation on Whole Slide Imaging using Convolutional Neural Networks and Transformers.* In SPIE Medical Imaging 2024.

[C25] Bao, S., Zhu, S., Kolachala, V. L., Remedios, L. W., Hwang, Y., Sun, Y., ... **Deng, R.,** ... & Huo, Y. (2023). *Cell Spatial Analysis in Crohn's Disease: Unveiling Local Cell Arrangement Pattern with Graph-based Signatures.* In SPIE Medical Imaging 2024.

[C24] Yao, X., Liu, H., Hu, D., Lu, D., Lou, A., Li, H., ... **Deng, R.,** ... & Oguz, I. (2023). *False negative/positive control for sam on noisy medical images.* In SPIE Medical Imaging 2024.

[C23] Liu, Y., **Deng, R.,** Xiong, J., Tyree, R. N., Correa, H., Hiremath, G., ... & Huo, Y. (2023). *Eosinophils Instance Object Segmentation on Whole Slide Imaging Using Multi-label Circle Representation.* In SPIE Medical Imaging 2024.

[C22] Xiong, J., Liu, Y., **Deng, R.,** Tyree, R. N., Correa, H., Hiremath, G., ... & Huo, Y. (2023). *Deep Learning-Based Open Source Toolkit for Eosinophil Detection in Pediatric Eosinophilic Esophagitis.* In SPIE Medical Imaging 2024.

[C21] Chen, J., Wang, Y., **Deng, R.,** Liu, Q., Cui, C., Yao, T., ... & Huo, Y. (2023). *Spatial Pathomics Toolkit for Quantitative Analysis of Podocyte Nuclei with Histology and Spatial Transcriptomics Data in Renal Pathology.* In SPIE Medical Imaging 2024.

[C20] Leng, H., **Deng, R.,** Bao, S., Fang, D., Millis, B. A., Tang, Y., ... & Huo, Y. (2023). *High-performance Data Management for Whole Slide Image Analysis in Digital Pathology.* In SPIE Medical Imaging 2024.

[C19] Cui, C., Deng, R., Liu, Q., Yao, T., Bao, S., Remedios, L. W., ... & Huo, Y. (2023). *All-in-sam: from weak annotation to pixel-wise nuclei segmentation with prompt-based finetuning.* In The 4th Asia Conference on Computers and Communications.

[C18] Yao, T., Rheault, F., Cai, L. Y., Asad, Z., Newlin, N., Cui, C., ... **Deng, R.,** ... & Huo, Y. (2023). *Robust Fiber ODF Estimation Using Deep Constrained Spherical Deconvolution for Diffusion MRI.* In SPIE Medical Imaging 2024.

[C17] Remedios, L. W., Cai, L. Y., Remedios, S. W., Ramadass, K., Krishnan, A., **Deng, R.,** ... & Landman, B. A. (2023). *Exploring shared memory architectures for end-to-end gigapixel deep learning.* In International Conference on Medical Imaging with Deep Learning Short Paper Track.

[C16] Bao, S., Cui, C., Li, J., Tang, Y., Lee, H. H., **Deng, R.,** ... & Huo, Y. (2023, April). *Topological-preserving membrane skeleton segmentation in multiplex immunofluorescence imaging.* In Medical Imaging 2023: Digital and Computational Pathology (Vol. 12471, pp. 62-71). SPIE.

[C15] Remedios, L. W., Bao, S., Kerley, C. I., Cai, L. Y., Rheault, F., **Deng, R.,** ... & Landman, B. A. (2023, April). *Predicting Crohn's disease severity in the colon using mixed cell nucleus density from pseudo labels.* In Medical Imaging 2023: Digital and Computational Pathology (Vol. 12471, pp. 302-309). SPIE.

[C14] Bao, S., Lee, H. H., Yang, Q., Remedios, L. W., **Deng, R.,** Cui, C., ... & Huo, Y. (2023, April). *Alleviating tiling effect by random walk sliding window in high-resolution histological whole slide image synthesis.* In Medical Imaging with Deep Learning.

[C13] Yao, T., Rheault, F., Cai, L. Y., Nath, V., Asad, Z., Newlin, N., ... **Deng, R.,** ... & Huo, Y. (2023, April). *Deep constrained spherical deconvolution for robust harmonization.* In Medical Imaging 2023: Image Processing (Vol. 12464, pp. 169-176). SPIE.

[C12] Cui, C., Bao, S., Li, J., Deng, R., Remedios, L. W., Asad, Z., ... & Huo, Y. (2023, February). *Influence of cell-type ratio on spatially resolved single-cell transcriptomes using the Tangram algorithm: based on implementation on single-cell and MxIF data.* In Proceedings of SPIE--the International Society for Optical Engineering (Vol. 12471). NIH Public Access.

[C11] Nguyen, E. H., Yang, H., Asad, Z., **Deng, R.,** Fogo, A. B., & Huo, Y. (2022, September). *CircleSnake: Instance Segmentation with Circle Representation.* In International Workshop on Machine Learning in Medical Imaging (pp. 298-306). Cham: Springer Nature Switzerland.

[C10] Liu, Q., Cui, C., **Deng, R.,** Asad, Z., Yao, T., Zhu, Z., & Huo, Y. (2022, September). *Leverage Supervised and Self-supervised Pretrain Models for Pathological Survival Analysis via a Simple and Low-cost Joint Representation Tuning.* In MICCAI Workshop on Resource-Efficient Medical Image Analysis (pp. 75-84). Cham: Springer Nature Switzerland.

[C9] Bao, S., Li, J., Cui, C., Tang, Y., **Deng, R.,** Remedios, L. W., ... & Huo, Y. (2022, September). *MxIF Q-score: Biology-Informed Quality Assurance for Multiplexed Immunofluorescence Imaging.* In International Workshop on Medical Optical Imaging and Virtual Microscopy Image Analysis (pp. 42-52). Cham: Springer Nature Switzerland.

[C8] Zhu, Z., **Deng, R.,** Liu, Q., Asad, Z., Cui, C., Yao, T., & Huo, Y. (2022, July). *Large-Scale Patch-Wise Pathological Image Feature Dataset with a Hardware-agnostic Feature Extraction Tool.* In Annual Conference on Medical Image Understanding and Analysis (pp. 778-786). Cham: Springer International Publishing.

[C7] Yao, T., Lu, Y., **Deng, R.,** Zhu, Z., Asad, Z., Yang, H., ... & Huo, Y. (2022, April). *Self-supervised learning with large-scale web image mining for characterizing glomerular lesions.* In Medical Imaging 2022: Digital and Computational Pathology (Vol. 12039, pp. 160-166). SPIE.

[C6] Nguyen, C., Asad, Z., **Deng, R.,** & Huo, Y. (2022, April). *Evaluating transformer-based semantic segmentation networks for pathological image segmentation.* In Medical Imaging 2022: Image Processing (Vol. 12032, pp. 942-947). SPIE.

[C5] Lu, Y., Jha, A., **Deng, R.,** & Huo, Y. (2022, April). *Contrastive learning meets transfer learning: a case study in medical image analysis.* In Medical Imaging 2022: Computer-Aided Diagnosis (Vol. 12033, pp. 715-722). SPIE.

[C4] Lu, Y., Yang, H., Zhu, Z., **Deng, R.,** Fogo, A. B., & Huo, Y. (2021). *Improve global glomerulosclerosis classification with imbalanced data using CircleMix augmentation.*

arXiv preprint arXiv:2101.07654.

[C3] Yao, T., Qu, C., Liu, Q., **Deng, R.,** Tian, Y., Xu, J., ... & Huo, Y. (2021). *Compound figure separation of biomedical images with side loss.* In Deep Generative Models, and Data Augmentation, Labelling, and Imperfections: First Workshop, DGM4MICCAI 2021, and First Workshop, DALI 2021, Held in Conjunction with MICCAI 2021, Strasbourg, France, October 1, 2021, Proceedings 1 (pp. 173-183). Springer International Publishing.

[C2] Zhao, M., Liu, Q., Jha, A., **Deng, R.,** Yao, T., Mahadevan-Jansen, A., ... & Huo, Y. (2021). *VoxelEmbed: 3D instance segmentation and tracking with voxel embedding based deep learning.* In Machine Learning in Medical Imaging: 12th International Workshop, MLMI 2021, Held in Conjunction with MICCAI 2021, Strasbourg, France, September 27, 2021, Proceedings 12 (pp. 437-446). Springer International Publishing.

[C1] Zhu, Z., Lu, Y., **Deng, R.,** Yang, H., Fogo, A. B., & Huo, Y. (2020). *Easierpath: an open-source tool for human-in-the-loop deep learning of renal pathology.* In Interpretable and Annotation-Efficient Learning for Medical Image Computing: Third International Workshop, iMIMIC 2020, Second International Workshop, MIL3ID 2020, and 5th International Workshop, LABELS 2020, Held in Conjunction with MICCAI 2020, Lima, Peru, October 4–8, 2020, Proceedings 3 (pp. 214-222). Springer International Publishing.

Peer Reviewed Abstracts

[A4] Qi, C., Zhong, J., Fu, B., Wang, Y., Zhao, S., **Deng, R.,** Yao, T., Huo, Y., Yang, H., & Fogo, A. (2024) *Comparative Glomerular Morphomics Analysis in Short-Looped and Long-Looped Nephrons Using Artificial Intelligence in Human Nephrectomy Samples.* In The Annual Meeting of The United States and Canadian Academy of Pathology (USCAP) 2024.

[A3] Zhao, O., Zhao, S., **Deng, R.,** Huo, Y., Zhong, J., Yang, H., & Fogo, A. (2023) *Injured Proximal Tubules Sensitize Glomerular Epithelial Cells to Injury via Local Paired Ligand/Receptor Interactions.* In The Annual Meeting of The United States and Canadian Academy of Pathology (USCAP) 2023.

[A2] Yang, H., **Deng, R.,** Zhao, S., Zhong, J., Huo, Y., & Fogo, A. (2022) *Integration of spatial transcriptomics and morphology in assessing atubular vs connected glomeruli.* In Kidney Week 2022, the Annual Meeting of the American Society of Nephrology (ASN).

[A1] Yang, H., **Deng, R.,** Huo, Y., & Fogo, A. (2020) *Automated Atubular Glomeruli Detection Using 3D Glomerular Quantification Algorithms.* In Kidney Week 2020, the Annual Meeting of the American Society of Nephrology (ASN).

Patents

[P3] Huo, Y., Yang, H., & **Deng, R.** *Systems and Methods for Pathological Image Segmentation via Molecular-Empowered Learning*

[P2] **Deng, R.,** Shaikh, N., Shannon, G., & Nie, Y. *Attention-based multimodal-fusion foor patient survival prediction*

[P1] **Deng, R.,** Shi, Y. *Diagnosis of Pre-excitation Syndrome Based on Multi-features Extraction of Electrocardiogram*

PRESENTATIONS

Invited Talks

- *Knowledge-infused Learning In Computational Pathology.*
  AI Fellowship Seminar, **Weill Cornell Medicine**, New York, NY, 2024.
- *Knowledge-infused Efficient Learning For Giga-pixel Virtual Microscopy Image.*
  PhD Thesis Madness, **MICCAI**, Vancouver, Canada, 2023
- *Multimodal Learning & Cross-modality Attention-based Multimodal Fusion Patient Survival Prediction*
  Knowledge Sharing Workshop, **Roche Diagnostics Solutions**, Santa Clara, CA, 2023.
- *Knowledge-infused Efficient Learning For Giga-pixel Virtual Microscopy Image.*
  CAMCA AIxMed Seminar, **Massachusetts General Hospital and Harvard Medical School**, Boston, MA, 2022.

Conference Oral Presentations

- *Cross-modality Attention-based Multimodal Fusion for Non-small Cell Lung Cancer (NSCLC) Patient Survival Prediction.*
  SPIE Medical Imaging, San Diego, 2024.
- *Leverage Weakly Annotation to Pixel-wise Annotation via Zero-shot Segment Anything Model for Molecular-empowered Learning.*
  SPIE Medical Imaging, San Diego, 2024.
- *High-performance data management for whole slide image analysis in digital pathology.*
  SPIE Medical Imaging, San Diego, 2024.
- *Cell Spatial Analysis in Crohn's Disease: Unveiling Local Cell Arrangement Pattern with Graph-based Signatures.*
  SPIE Medical Imaging, San Diego, 2024.
- *An accelerated pipeline for multi-label renal pathology image segmentation at the whole slide image level.*
  SPIE Medical Imaging, San Diego, 2023.
- *An end-to-end pipeline for 3D slide-wise multi-stain renal pathology registration.*
  SPIE Medical Imaging, San Diego, 2023.
- *Cross-Scale Attention Guided Multi-instance Learning for Crohn's Disease Diagnosis with Pathological Images.*
  MICCAI MMMI Workshop, Singapore, 2022.
- *Dense multi-object 3D glomerular reconstruction and quantification on 2D serial section whole slide images.*
  SPIE Medical Imaging, San Diego, 2022.

- *Self-supervised learning with large-scale web image mining for characterizing glomerular lesions.*
  SPIE Medical Imaging, San Diego, 2022.
- *CaCL: Class-Aware Codebook Learning for Weakly Supervised Segmentation on Diffuse Image Patterns.*
  DGM4MICCAI Workshop, Strasbourg, France, 2021.

LEADERSHIP AND SERVICE

Conference Organization Service

- MICCAI 2024 KPIs Challenge, Executive Committee
- MIDL 2023, Local Organizing Committee, Virtual Session Volunteer
- MED-NEURIPS 2023, Program Committee
- ICCV CVAMD 2023, Program Committee
- MED-NEURIPS 2022, Program Committee

Journal Reviewing

- IEEE Transactions on Medical Imaging (TMI)
- Medical Image Analysis (MedIA)
- IEEE Journal of Biomedical and Health Informatics (JBHI)
- Artificial Intelligence in Medicine (AIM)
- Pattern Recognition (PR)
- Journal of Medical Imaging (JMI)
- Journal of Machine Learning for Biomedical Imaging (MELBA)
- Plos One (PO)
- PNAS Nexus (PN)
- Engineering Application of Artificial Intelligence (EAAI)
- IEEE Access

Conference Reviewing

- International Conference on Medical Image Computing and Computer Assisted Intervention (MICCAI)
- International Conference on Medical Imaging with Deep Learning (MIDL)
- IEEE International Symposium on Biomedical Imaging (ISBI)
- IEEE International Conference on Computer Vision Workshop (ICCVW)
- Conference on Neural Information Processing Systems Workshop (NIPSW)

Co-mentoring

- Juming Xiong, MS BME, Circle representation for medical instance segmentation
- Xueyuan Li, MS DS, Foundation model in cell annotation
- Lining Yu, MS CS, Multi-class segmentation for glomerular lesion
- Zheyu Zhu, BS CS, Feature embedding for whole slide imaging
- Peize Li, BS CS, Multi-stain whole slide imaging registration
- Haoju Leng, BS CS, Accelerated segmentation pipeline for kidney whole slide images
- Yanwei Li, BS CS, Molecular-empowered cell annotation
- Saydolimkhon Agzamkhodjaev, BS CS, Undergraduate research credit
- Yilin Liu, BS CS, Cell detection on pathological images
- Ethan Nguyen, BS CS, Nuclei detection on pathological images
- Muhao Liu, BS CS, Kidney layer segmentation
- Franklin Hu, BS CS, Multi-site vessel segmentation for renal pathology

Community Volunteer

- IEEE EMBS Student Mentoring Program 2023 Ambassador