JIAXIANG REN

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EDUCATION

Stony Brook University, NY, U.S. *Aug. 2019 - 2025 (Expected)*
Ph.D. Candidate in Computer Science
Advisor: Professor Haibin Ling, Professor Yingtian Pan

Tongji University, Shanghai, China *Sep. 2015 - Apr. 2018*
M.S. in Computer Science & Technology
Advisor: Professor Shengjie Zhao
Thesis: The Research on the Sparse-based Subspace Clustering Algorithm in High-dimensional Data

Tongji University, Shanghai, China *Sep. 2011 - Jun. 2015*
B.Eng. in Computer Science & Technology
Overall GPA: 4.02/5.00, Major GPA: 4.39/5.00
Thesis: Randomized Algorithms for Matrices and Big Data

RESEARCH INTEREST

Artificial Intelligence, Computer Vision, 3D Image Denoising, and Large Language Model

PUBLICATION

Jiaxiang Ren, Kicheon Park, Yingtian Pan, and Haibin Ling. "Self-Supervised Bulk Motion Artifact Removal in Optical Coherence Tomography Angiography," in *Proc. of IEEE Conf. on Computer Vision and Pattern Recognition (CVPR)*, 2022.

Jiaxiang Ren, Jiaxiang Ren, Wensheng Cheng, *et al.*, Congwu Du, Yingtian Pan, and Haibin Ling. "COCTA: A Cortex Vessel Segmentation Benchmark using Optical Coherence Tomography Angiography," in *Proc. of IEEE International Symposium on Biomedical Imaging (ISBI)*, 2025.

Jiaxiang Ren, Zhenghong Li, Wensheng Cheng, Zhilin Zou, Kicheon Park, Yingtian Pan, and Haibin Ling. "Self-supervised 3D Skeleton Completion for Vascular Structures," in *Proc. of International Conference on Medical Image Computing and Computer-Assisted Intervention (MICCAI)*, 2024.

Zhenghong Li, **Jiaxiang Ren**, Zhilin Zou, Kalyan Garigapati, Congwu Du, Yingtian Pan, Haibin Ling. "Self-supervised Denoising and Bulk Motion Artifact Removal of 3D Optical Coherence Tomography Angiography of Awake Brain," in *Proc. of International Conference on Medical Image Computing and Computer-Assisted Intervention (MICCAI)*, 2024.

Zhilin Zou, Kicheon Park, **Jiaxiang Ren**, Wensheng Cheng, Sophia Liu, Yingtian Pan, Congwu Du, Haibin Ling. "Weakly supervised detection of cell activation," in *Medical Imaging 2024: Clinical and Biomedical Imaging (SPIE)*, 2024.

Jiaxiang Ren, Wensheng Cheng, Hyomin Jeong, Yanzuo Liu, Zhenghong Li, Qiaochu Wang, Congwu Du, Haibin Ling, Yingtian Pan. "3D Quantitative Analysis on Cerebral Blood Flow using Self-supervised-learning-enhanced Optical Coherence Doppler Tomography," *under review.*

Yingtian Pan, Kicheon Park, **Jiaxiang Ren**, Nora D. Volkow, Haibin Ling, Alan P. Koretsky, and Congwu Du. "Dynamic 3D Imaging of Cerebral Blood Flow Networks in Awake Mice using Ultrahigh-resolution Optical Coherence Doppler Tomography," *Nature Communications Biology*, 2023.

Yasha Singh, Vivek Atulkar, **Jiaxiang Ren**, Jie Yang, Heng Fan, Longin Jan Latecki, and Haibin Ling. "Osteoporosis Prescreening and Bone Mineral Density Prediction using Dental Panoramic Radiographs," in *Annual International Conference of the IEEE Engineering in Medicine & Biology Society (EMBC)*, 2021.

Jiaxiang Ren, Heng Fan, Jie Yang, and Haibin Ling. "Detection of Trabecular Landmarks for Osteoporosis Prescreening in Dental Panoramic Radiographs," in *Annual International Conference of the IEEE Engineering in Medicine & Biology Society (EMBC)*, 2020.

Jiaxiang Ren, Shengjie Zhao, Kai Yang, and Brian Zhao. "A Novel and Robust Face Clustering Method via Adaptive Difference Dictionary," in *IEEE International Conference on Multimedia & Expo Workshops (ICMEW)*, 2017.

WORK EXPERIENCE

Senior Machine Learning Engineer *Sep. 2024 - Present*
NVIDIA
LLMs finetuning and development for chatbot in multi-agent systems.

Research Assistant *Jun. 2020 - Aug. 2024*
CV Lab Stony Brook University
Research on image denoising, segmentation, and 3D visualization.

AI and NLP Research Intern *Jul. 2023 - Oct. 2023*
NVIDIA
· Fine-tuned (PEFT and SFT) open source LLMs, such as T5 and Code Llama, on Text2SQL task.
· Designed the prompt with knowledge injection for a real-world database.
· Deployed the fine-tuned model using NVIDIA Triton Inference Server and integrate the API into a chatbot.
· Implemented the end-to-end pipeline from user question to information retrieval from the database.

Teaching Assistant *Aug. 2019 - May 2020*
CSE 310, Computer Networks, Fall 2019 & Spring 2020, Stony Brook University

Algorithm Engineer *May 2018 - Jul. 2019*
Computer Vision Group, Ping An Technology
· Plant recognition AI: medicinal herb classification subtask. Implemented an interpretable classification model to discern similar herbs with high accuracy and recall.
· AI diagnostic platform. Developed neural networks for the classification and segmentation with X-ray and CT images, aiding doctors in the diagnose of diseases. Product was integrated into the platform.

SELECTED HONORS

· Innovation Recognition, NVIDIA, CA, U.S. 2025

· Excellent Graduate of Shanghai, Shanghai, China 2018

· The ENN Energy Scholarship, Shanghai, China 2017

PROFESSIONAL ACTIVITIES

· Journal Reviewers: IEEE TPAMI, IEEE TVCG, Computational and Structural Biotechnology Journal

· Conference Reviewers: CVPR, ECCV, WACV

SKILLS

Programming Languages	Python, C/C++, MATLAB, Java, SQL, JSP, Shell, Assembly
Deep Learning Toolboxes	LangChain, LangGraph, PyTorch, Milvus, NeMo