YINING JIAO

Chapel Hill, NC, USA

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EDUCATION

The University at North Carolina at Chapel Hill — **Chapel Hill, NC, USA**
Ph.D. in Computer Science — *Aug. 2020 - Present*
Advisor: Prof. Marc Niethammer

Shanghai Jiao Tong University — **Shanghai, China**
M.Sc. in Biomedical Engineering — *Sep. 2017 - Mar. 2020*
Advisor: Prof. Qian Wang

Northwestern Polytechnical University — **Xi'an, Shanxi, China**
*B.Eng., **Honors College**, in Electronic Science and Technology* — *Sep. 2013 - Jun. 2017*
Advisor: Prof. Wei Wei

RESEARCH INTERESTS

Shape Modeling, Medical Image Analysis, AI4Science.

I'm dedicated to developing interpretable and trustworthy AI algorithms for scientific discovery and social good.
Specifically, I work on geometry processing, shape modeling, medical image analysis.
Generally, I enjoy finding elegant solutions to challenging problems.
I collaborate closely with the medical school and physics department.

MAIN PROJECTS

- **Pediatric Airway Atlas Analysis**
  Research Assistant at UNC-BIAG Lab — *Aug. 2020 - Present*
  Image Processing Developed algorithms for image segmentation, generation, landmark detection, geometry processing;
  Shape Modeling Developed interpretable neural shape representation approaches for scientific shape discovery.
- **Fast Computation and Clinical Applications of Radiomics Features**
  Research Assistant at SJTU-MIC Lab — *Sep. 2017 - Mar. 2020*
  Tool Developed the CUDA-based tool for fast computation of Radiomics features;
  Application Applied statistical analysis and machine learning methods for treatment outcome prediction of prostate cancer and osteosarcoma, cervical cancer classification, diagnosis of Parkinson's disease, etc.
- **Intracluster Structured Low-Rank Matrix Analysis Method for Hyperspectral Denoising**
  Student Researcher at NWPU — *May. 2016 - Jun. 2017*
  Implemented a method based on convex optimization for hyperspectral image denoising; conducted quantitative and qualitative evaluations to prove its SOTA-performance.

SELECTED PUBLICATIONS

# indicated equal contribution

- NAISR: A 3D Neural Additive Model for Interpretable Shape Representation
  Yining Jiao, Carlton Zdanski, Julia Kimbell, Andrew Prince, Cameron Worden, Samuel Kirse, Christopher Rutter, Benjamin Shields, William Dunn, Jisan Mahmud, Marc Niethammer.
  submitted to **ICLR 2024**; post rebuttal score: 8,6,6,6.
- iSegFormer: Interactive Segmentation via Transformers with Application to 3D Knee MR Images
  Qin Liu, Zhenlin Xu and Yining Jiao and Marc Niethammer.
  Medical Image Computing and Computer Assisted Intervention (**MICCAI2022**)
- cuRadiomics: A GPU-based Radiomics Feature Extraction Toolkit
  Yining Jiao, Oihane Mayo Ijurra, Lichi Zhang, Dinggang Shen, Qian Wang.

MICCAI Workshop on Radiomics and Radiogenomics in Neuro-oncology using AI, (**Top 10 of Submitted Papers**), October 2019. [**Oral**]

- Imaging-Based Individualized Response Prediction of Carbon Ion Radiotherapy for Prostate Cancer Patients
  Shuang Wu#, **Yining Jiao#**, Yafang Zhang, Xuhua Ren, Ping Li, Qi Yu, Qing Zhang, Qian Wang, Shen Fu.
  Cancer Management and Research, September 2019.
- Intracluster Structured Low-Rank Matrix Analysis Method for Hyperspectral Denoising
  Wei Wei#, Lei Zhang#, **Yining Jiao**, Chunna Tian, Cong Wang, Yanning Zhang.
  IEEE Transactions on Geoscience and Remote Sensing, August 2018.

TALKS

- Radiomics-Driven Deep Reinforcement Learning in Detecting Brain Tumor Lesions
  SJTU Graduate Student Academic Forum, July 2019. **1st Prize in Oral Presentation Group**
- Can Radiomics Features Boost the Performance of Deep Learning upon Histology Images?
  International Conference on Medical Imaging Physics and Engineering, November 2019. **Excellent Paper Award**
- ConvRadiomics: Convolutional Radiomics Feature Extraction Toolkit
  International Conference on Medical Imaging Physics and Engineering, November 2019.

AWARDS & HONORS

ICML Workshop on Computational Biology Fellowship	2021
Outstanding Graduate of Shanghai (only 4 from department)	2020
SJTU Excellent Graduate Student Award (only 2 from the department)	2019
Silver Medal, Kaggle RSNA Intracranial Hemorrhage Detection Challenge	2019
Excellent Undergraduate Thesis in NWPU	2017

PROFESSIONAL ACTIVITIES

Journal Reviews: IEEE Journal of Biomedical and Health Informatics, Neural Networks.
Conference Reviews: ICCV 2021, CVPR 2022, ICCV 2023.