YINING JIAO

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EDUCATION

Shanghai Jiao Tong University **Shanghai, China**

M.S. in Biomedical Engineering *Sep. 2017 - Present*

- **Research Topic:** Medical Image Analysis, Machine Learning, Computer-Aided Diagnosis
- **GPA:** 3.44/4.0
- **Relevant Coursework:** Computer Vision, Advanced Biomedical Image Processing, Optimal Estimation Theory and System Identification
- Awards & Honors: SJTU Excellent Graduate Student Award (top 4%)
  Outstanding Graduate of Shanghai(top 3%)

Northwestern Polytechnical University **Xi'an, Shaanxi, China**

B.S. in Electronic Science and Technology *Sep. 2013 – Jun. 2017*

- **From Honors College:** Top students from NWPU enrolled
- **GPA:** 87.3/100
- **Relevant Coursework:** Calculus, Linear Algebra, Probability Theory & Statistics, Pattern Recognition
- **Undergraduate Thesis:** Intracluster Structured Low-Rank Representation for Hyperspectral Image Denoising, rated as Excellent Undergraduate Thesis (top 3%)

RESEARCH EXPERIENCE

Severity Prediction and Time Estimation for Covid-19 Patients

Research Intern, at Shanghai United Imaging Intelligence *Mar. 2020 – Present*

- Responsible for the whole development process
- Developing a model which can reflect their disease progression from the CT scans for Covid-19 patients.

Kaggle RSNA Intracranial Hemorrhage Detection Challenge

Research Intern, at Shanghai United Imaging Intelligence *Sep. 2019 – Nov. 2019*

- Responsible for data processing, model testing and result analysis, awarded silver medal (top 4%)

Radiomics-Driven Reinforcement Learning

Graduate Researcher, at Medical Image Computing Lab, SJTU *Oct. 2018 – Present*

- Developed a reinforcement learning framework using radiomics features as input in order to integrate the separate steps (segmentation, feature extraction and selection, modelling) of radiomics based machine learning methods, for visualizing the process of decision making and optimizing the clinical verifications

cuRadiomics

Graduate Researcher, at Medical Image Computing Lab, SJTU *Feb. 2019 – Jul. 2019*

- Developed a GPU-based radiomics feature extraction toolkit in CUDA platform, which can be 143 times faster than CPU-based feature extraction toolkits, largely accelerating the process of feature extraction

Imaging-Based Individualized Response Prediction of Carbon Ion Radiotherapy for Prostate Cancer Patients, Cooperated with Shanghai Proton and Heavy Ion Center, Fudan University Cancer Hospital

Graduate Researcher, at Medical Imaging Computing Lab, SJTU *Sep. 2017 – Sep. 2018*

- Implemented statistical analysis for selecting significant biomarkers and constructed machine learning models for clinical verifications of the radiomics features for CIRT response prediction

Intracluster Structured Low-Rank Representation for Hyperspectral Image Denoising
Undergraduate Researcher, at Visual Information and Learning Group, NWPU *Sep. 2016 – Jun. 2017*

- Developed a denoising method for hyperspectral images based on our proposed intracluster low-rank representation of hyperspectral images; implemented six prevalent denoising methods to demonstrate the state-of-the-art performance of our proposed method

PRESENTATIONS & PUBLICATIONS

- **Radiomics-Driven Deep Reinforcement Learning in Detecting Brain Tumor Lesions**
  SJTU Graduate Student Academic Forum, **1st Prize in Oral Presentation Group,** July 2019.
- **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, **Oral Presentation (top 10 of submitted papers)**, *October* 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.
- **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.
- **Can pretreatment 18F-FDG PET tumor texture features predict the outcomes of osteosarcoma treated by neoadjuvant chemotherapy?**
  Hongjun Song#, **Yining Jiao**#, Weijun Wei, Xuhua Ren, Chentian Shen, Zhongling Qiu, Qingcheng Yang, Qian Wang, Quan-Yong Luo.
  European Radiology, July 2019.
- **Quantitative Susceptibility Mapping Based Hybrid Feature Extraction for Diagnosis of Parkinson's Disease**
  Bin Xiao, Naying He, Qian Wang, Zenghui Cheng, **Yining Jiao**, E Mark Haacke, Fuhua Yan, Feng Shi.
  NeuroImage: Clinical, January 2019.
- **Can Radiomics Features Boost the Performance of Deep Learning upon Histology Images?**
  Mar Hernández, **Yining Jiao**, Qian Wang.
  IEEE International Conference on Medical Imaging Physics and Engineering, **Oral Presentation (Excellent Paper Award)**, November 2019.
- **ConvRadiomics: Convolutional Radiomics Feature Extraction Toolkit**
  Oihane Mayo Ijurra, **Yining Jiao**, Qian Wang.
  IEEE International Conference on Medical Imaging Physics and Engineering, **Oral Presentation**, November 2019.

LEADERSHIP

Medical Imaging Computing Lab; School of Biomedical Engineering, SJTU **Shanghai, China**
Student Instructor *Mar. 2018 – Mar. 2020*

- Instructed two international students in their research and paper writing, both papers accepted
- Instructed four undergraduates to develop a software for medical image analysis
- Organized presentations and exams in the *Computer Vision in Biomedical Engineering* course

SKILLS

- **Coding:** Python (PyTorch, Tensorflow), C/C++ (CUDA), MATLAB
- **OS:** Linux, Windows

STANDARDIZED TEST SCORE

- **TOEFL:** 107 (Reading: 29; Listening: 27; Speaking: 24; Writing: 27)
- **GRE:** 330 (Verbal: 160; Quantitative: 170)