Hai Jiang

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EDUCATION

Master of Science in Computational Mathematic September 2019-July 2022
Nankai University (NKU, Project 985 & 211, Double First-Class), Tianjin, China

- Thesis: GANs-Based Personal Style Imitation of Chinese Handwritten Characters.
- Developed an end-to-end CycleGAN framework achieving 85% visual similarity (10% improvement over baselines).
- Key Skills: GANs, style-transfer learning, Python, PyTorch, data preprocessing.
- Advisors: Prof. Yunhua Xue, Prof. Chunlin Wu.
- Relevant Coursework: Approximation Theory, Numerical Optimization, Functional Analysis, Matrix Computation, Numerical PDEs.
- GPA: 3.06/4.00.

Bachelor of Engineering in Information Security September 2014-July 2018
Lanzhou University (LZU, Project 985 & 211, Double First-Class), Gansu, China

- Thesis: Improved Upper Bounds of Roman Domination Number in Maximal Outer planar Graphs.
- Focused on graph theory and combinatorial optimization.
- Advisor: Prof. Zepeng Li.
- Relevant Coursework: Discrete Mathematics, Data Structures, Operating Systems, C/C++ Programming, Database Theory.
- GPA: 4.15/5.00.

RESEARCH EXPERIENCE

Research Assistant | Computational Medical Imaging Laboratory November 2022-July 2024
School of Computer Science and Engineering, Sun Yat-sen University

- **Project:** Placenta Accreta Spectrum Disorder Classification.
  - Developed a multi-task learning model using T2-WI MRI images, achieving AUC of 0.80.
  - Published: "Anatomy-Guided Multitask Learning for MRI-Based Classification of Placenta Accreta Spectrum and It's Subtypes" (Accepted at ISBI 2025).
- **Skills**: Literature review, data preprocessing, PyTorch, research writing.

Research Assistant | Computational Medical Imaging Laboratory December 2023-January 2024
School of Computer Science and Engineering, Sun Yat-sen University

- **Project**: Breast Cancer Metastasis Prediction.
  - Designed a CNN-based system using dual-energy CT scans to predict metastasis, achieving AUC of 0.85 (cross-validation).
  - Manuscript submitted to MICCAI 2024 and under revision for Journal of Medical Physics.
- **Skills:** TensorFlow, Keras, data analysis, experimental design, research writing.

Research Student | Image Analysis Team January 2022-June 2022
School of Mathematical Sciences, Nankai University

- **Project:** ADMM Model for Compressed-Sensing MRI.
    - Reproduced iterative mathematical equations from Deep ADMM-Net for Compressed-Sensing MRI using C++, Python, and PyTorch.
- **Skills:** Compressed-sensing theory, neural networks, MRI reconstruction.

PUBLICATIONS

1. Hai Jiang et al. "Anatomy-Guided Multitask Learning for MRI-Based Classification of Placenta Accreta Spectrum and Its Subtypes." IEEE ISBI, 2025.
2. Jiawei Pan, Zilong He, Yue Li, Weixiong Zeng, Yaya Guo, Lixuan Jia, Hai Jiang et al. "Atypical Architectural Distortion Detection in Digital Breast Tomosynthesis: A Multi-View Computer-Aided Detection Model with Ipsilateral Learning." Physics in Medicine & Biology, 2023.

TECHNICAL SKILLS

- **Programming:** Python, PyTorch, TensorFlow, Keras, C/C++, MATLAB, LaTeX, Git.
- **Tools & Platforms:** Linux (Ubuntu), Microsoft Office, Adobe Photoshop.
- **Research Methods:** Deep learning, Image processing, Medical imaging, Compressed sensing.

AWARDS & SCHOLARSHIP

- Four-time recipient of the **Third-Class Merit Scholarship for Academic Excellence** at LZU (2014–2018).
- Three-time recipient of the **Third-Class Merit Scholarship for Academic Excellence** at NKU (2019–2022).

LANGUAGE PROFICIENCY

- **Mandarin**: Native.
- **English**: Professional (IELTS 6.5, CET6 476/710, CET4 544/710).
- **Cantonese:** Intermediate.

FUNDING & PATENT WORK

- **Funding Proposal Writing:** Contributed to National Key R&D Program of China **[No. 2023YFE0204300].**
- **Report Writing:** Completed three Completion & Progress Reports for National Natural Science Foundation of China **[No. 81971691, 12126610]** and R&D Program of Pazhou Lab **[No. 2023K0606].**
- **Patent Work:** 1 patent application under review.
- **Medical Device Specification**: Successfully completed 1 medical device application.

TEACHING EXPERIENCE

- **Courses Taught:** Calculus, Mathematical Analysis.
- **Thesis Supervision:** Breast Cancer Classification Method Based on Dual-Energy CT Images.

RESEARCH INTEREST

Artificial Intelligence, Mathematics, Medical Image Analysis, Deep Learning, Physics.

REFERENCES

Prof. Yunhua Xue – Associate Professor, Computational Mathematics, Nankai University
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Prof. Yao Lu – Professor, Medical Image Analysis, Sun Yat-sen University
luyao23@mail.sysu.edu.cn | address: Xingang West Road, Haizhu District, and Guangzhou, China.

Dr. Yuanpin Zhou – Postdoctoral Researcher, Medical Image Analysis, Zhejiang University
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