XIANG ZHAO

Erlangen, Germany

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Portfolio: **xiangzhao24.github.io** | LinkedIn: linkedin.com/in/xiang-zhao

EDUCATION

Friedrich-Alexander-Universität Erlangen-Nürnberg (FAU) **Oct 2025 – Present**
M.Sc. Medical Engineering (Focus: Image Processing & Data Analysis) *Erlangen, Germany*

Relevant Coursework: MRI Physics, Deep Learning in Medicine, Image Reconstruction.

Anhui Agricultural University **Sep 2020 – Jun 2024**
B.Eng. Electronic Information Engineering *Hefei, China*

TECHNICAL SKILLS

Medical AI: PyTorch, MONAI, U-Net, 3D Segmentation, Dice Loss, Data Augmentation
Image Processing: SimpleITK, Nibabel, OpenCV, DICOM/NIfTI Standards, Registration
MRI Physics: K-space Reconstruction, FFT/iFFT, Artifact Correction, Pulse Sequences
Dev Tools: Python (NumPy, SciPy), Git, Docker, Streamlit

PROJECTS

NeuroMetric: AI-Based Brain Tumor Segmentation **Oct 2025 – Present**

Developed an end-to-end **3D MRI segmentation pipeline** (BraTS dataset) utilizing slice-based strategy to detect tumors.

Built a **U-Net architecture** using **PyTorch & MONAI**, implementing Dice Loss to handle class imbalance.

Engineered preprocessing workflows: **Intensity Normalization**, **Slice Extraction**, and tensor transformation (Nibabel).

Created a **Visualization Script** to generate high-quality overlays of segmentation masks and tumor boundaries.

MRI Image Reconstruction Pipeline (Coursework) **Oct 2025**

Implemented raw data reconstruction from **K-space** to image domain using **FFT/iFFT** algorithms.

Simulated and corrected **Gibbs ringing artifacts** by applying filtering windows (Hamming).

Investigated **Partial Fourier** and **Zero-filling** techniques to enhance resolution and SNR.

Evaluated reconstruction quality quantitatively using **PSNR** and **SSIM** metrics.

EXPERIENCE

Zhao Teacher Education **Jan 2024 – Jan 2025**
Founder & Physics Instructor *China*

Designed comprehensive physics curriculum, simplifying complex concepts for high school students.

Managed daily operations and student communications, demonstrating strong organizational skills.

Tech/Web3 Community **2023 – 2025**
Community Lead *Online*

Managed a community of 500+ members, organizing technical workshops and online events.

LANGUAGES

English: Fluent (Professional) | **German:** Basic (A1) | **Chinese:** Native