XIANG ZHAO

Erlangen, Germany

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EDUCATION
BLACK

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, Cardiac MRI.

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

Core Modules: Signals & Systems, Digital Image Processing, C++ Programming.

TECHNICAL SKILLS
BLACK

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, Linux, LaTeX, Streamlit

PROJECTS
BLACK

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

Developed an end-to-end **3D MRI segmentation pipeline** (BraTS dataset) to automatically detect tumors.

Built a **U-Net architecture** using **PyTorch & MONAI**, implementing Dice Loss to optimize accuracy.

Engineered preprocessing workflows: **N4 Bias Field Correction**, normalization, and rigid registration (SimpleITK).

Created an interactive dashboard using **Streamlit** for real-time tumor volumetry and mask visualization.

MRI Image Reconstruction Pipeline (Coursework)	**FAU Erlangen**

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

Simulated and corrected **Gibbs ringing artifacts** by applying specific 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
BLACK

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	*Remote*

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

LANGUAGES
BLACK

English: Fluent (Professional) ｜ **German:** Basic (A1/A2) ｜ **Chinese:** Native