Yingchao Li

Nürnberg, Germany | +49 1626606418 | yingchao.li@fau.de | LinkedIn | GitHub

Profile

M.Sc. Data Science student at FAU with a Computer Science background and hands-on experience in computer vision, machine learning, and software engineering. Skilled in AI model development and evaluation, full-stack applications, and embedded hardware integration using Python, PyTorch, React, FastAPI, and ESP32.

Education

Friedrich-Alexander-Universität Erlangen-Nürnberg — Erlangen, Germany
M.Sc. Data Science — *October 2025 – Present*

China University of Geosciences (Wuhan) — Wuhan, China
B.Sc. Computer Science and Technology — *September 2021 – June 2025*

Professional Experience

Software Development Intern — Sep 2024 – Mar 2025
Guanghong (Retail Business) — *Shanxi, China*

- Independently developed and deployed a WeChat Mini Program using JavaScript, WXML, and WXSS, enabling product browsing and online ordering.
- Developed and integrated Python-based backend functionality for order processing and AI-powered customer support, building on existing open-source components.
- Managed application testing, deployment, and maintenance; the retailer reported a **6.8% increase in sales** following launch.

Technical Projects

CV Tool – Interactive Computer Vision Platform | *Python, Gradio, Computer Vision* — Mar – Aug 2026

- Built a Gradio-based platform at FAU for interactive testing and visualization of computer vision modules.
- Implemented 3D box estimation with RANSAC, MLESAC, and Preemptive RANSAC, plus RAW/HDR pipelines with demosaicing and tone mapping.
- Developed writer retrieval (RootSIFT, VLAD, Exemplar SVM), object detection (Selective Search, HOG, linear SVM, NMS), and open-set face recognition with SPL/MPL pseudo-labeling and unknown-identity rejection.

EV Charging Reservation & Smart Parking Lock | *React, FastAPI, SQLite* — Oct 2026

- Built a full-stack charging reservation platform at a Munich hackathon with interactive maps, driver/admin dashboards, automated check-in, no-show handling, blocked-bay alerts, waitlisting, and reallocation.
- Integrated a physical ECURIOUS parking lock using REST and server-sent events (SSE), with real-time monitoring, license-plate recognition fallback, and failure recovery.
- Validated reservation-to-release workflows with **101 automated tests**; included third-party API integrations and ROI simulation.

Bachelor's Thesis: Prior-Enhanced Image Restoration | *PyTorch,Image Processing* — Dec 2024 – Jun 2025

- Designed PriAda-U-Net for image dehazing and GRS-U-Net for deraining, integrating dark-channel and gradient-map priors into deep learning architectures.
- Implemented adaptive loss weighting and conducted comparative experiments and ablation studies, achieving **34.13 dB PSNR and 0.8325 SSIM** in image dehazing.
- Developed an interactive image restoration platform using Python and Gradio, supporting image upload, model inference, and result visualization.

Technical Skills

Programming: Python, JavaScript, C/C++, SQL, WXML, WXSS
AI / Computer Vision: PyTorch, scikit-learn, object detection, image restoration, feature extraction, deep learning
Software / Testing: React, FastAPI, REST APIs, SSE, Gradio, SQLite, Git, pytest, NumPy, pandas, data processing
Embedded / Hardware: ESP32-S3, camera interfacing, GPIO control, hardware–software integration
Languages: Chinese (native), English (fluent), German (basic)