

Ziyang Li

ZIYANG LI

AI Researcher
Computer Vision · AI for Science

CONTACT

Phone
17582866850

Email
1106860376@qq.com

Profile
Male | 22 years old

PROFILES

Google Scholar

GitHub · Ziyang-Li-AILab

CORE SKILLS

- Computer Vision & Detection
- Digital Humans & Virtual Try-On
- Deep & Transfer Learning
- Astronomical Imaging & AI4S
- Hyperspectral Imaging & E-Nose
- Medical Imaging & Unsupervised Learning

RESEARCH FOCUS

AI for Science · Embodied AI · Generative Models · Digital Humans · Virtual Try-On · Autonomous Driving · Medical AI · Uncertainty

EDUCATION

Northeast Electric Power University
B.Eng. in Robotics Engineering
Sep 2020 — Jun 2024

A computer vision researcher exploring AI for scientific discovery and real-world applications. My work spans digital humans, astronomical observation, medical imaging, hyperspectral imaging, and electronic noses, connecting algorithm development, empirical validation, and practical requirements.

Experience EXPERIENCE

Shanghai AI Laboratory | AI for Science (Astronomy)

Jul 2024 — Jan 2026

Research Intern

Addressed major scientific and computational problems in astronomy with object detection, 3D understanding, generative models, transfer learning, noise-robust learning, uncertainty theory, and symbolic regression; explored the integration of data-driven AI with physics-driven models.

Extreme Vision Technology Co., Ltd., Qingdao

Apr 2022 — Oct 2023

Technical Writer

Tracked and reproduced frontier AI work, publishing 16 technical analyses on lightweight Long-range GAN, the multi-scale attention network MAN, and the EdgeNeXt mobile hybrid architecture. Individual articles received 3,000+ reads.

Selected Projects SELECTED PROJECTS

High-Fidelity 3D Digital Human Reconstruction from Unconstrained Photos 2025 — 2026

Developed a tuning-free reconstruction pipeline for collections with arbitrary poses, viewpoints, crops, and occlusions. A data rectifier converts unstructured inputs into canonical multi-view images, while pose-correlated feature aggregation improves identity preservation and view fusion. Supports arbitrary-pose control and multi-garment virtual try-on. Published at *ICLR 2026*.

FAST Radio-Frequency Interference Suppression | NAOC Collaboration Jan 2024 — Jun 2024

Approached radio-frequency interference in the FAST telescope from a computer vision perspective, pretraining at scale on 24 TB of data. Combined array spatial positions to formulate generalized masking rules and applied log-space bin-to-regression logic to reduce interference with scientific observation.

Unsupervised OCT Image Denoising Aug 2024 — Dec 2024

Designed an unsupervised denoising method based on Noise2Noise domain transformation for highly variable stochastic OCT noise. Efficiently maps noise domain A to domain B through local patches from two OCT images.

Differentiable Photometric Loss for Astronomical Images Jan 2024 — Jan 2025

Built a differentiable loss grounded in PSF photometry to address insufficient supervision for faint sources in ground-based telescope images. The method directly supervises source brightness and substantially reduces magnitude errors caused by PSF, instrumentation, and atmospheric effects.

Academic Impact ACADEMIC IMPACT

10
CCF-A conference and journal publications
2 as first author

2
Invited reviewer roles for SCI journals across multiple domains

2
National-level research projects with substantial involvement

- **First Author** | PSCFormer: A Lightweight Hybrid Network for Gas Identification in Electronic Nose System, *Pattern Recognition*
- **Co-author** | Up2you: Fast Reconstruction of Yourself from Unconstrained Photo Collections, *ICLR 2026*
- **Co-author** | Determination of the Quality of Tea from Different Picking Periods: An Adaptive Pooling Attention Mechanism Coupled with an Electronic Nose, *Postharvest Biology and Technology*
- **First Author** | AdaNet: A Competitive Adaptive Convolutional Neural Network for Spectral Information Identification, *Pattern Recognition*
- **Co-author** | SelfieAvatar: High-Fidelity Animatable 3D Head Avatars from In-the-wild Selfies, *ACM MM 2026*
- **Co-author** | Lightweight Residual Convolutional Neural Network for Soybean Classification Combined with Electronic Nose, *IEEE Sensors Journal*

Additional work appeared in journals including *IEEE Sensors Journal*. Also contributed to the National Undergraduate Innovation and Entrepreneurship Training Program project, an electronic-nose-based real-time meat-quality analysis system.

Education & Visiting EDUCATION & VISITING

The Hong Kong Polytechnic University | Prof. Mingguang He Group

Jan 2026 — Aug 2026

Researcher | Digital Humans, Virtual Try-On & Medical AI

Initially worked on OCT registration, unsupervised denoising, domain transformation, and keypoint detection. Later focused on digital human research, contributing to high-fidelity animatable 3D heads, virtual try-on for eyewear and accessories, and multi-view human reconstruction, with emphasis on generative models, image-to-3D representations, and identity preservation.

The Chinese University of Hong Kong | Visiting Student

Jan 2024 — Jun 2024

