

# ZIHONG LUO

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## PROFILE

Research-focused undergraduate in **Computing/AI**, with experience across **multimodal learning, medical imaging, and robot learning**. Publishing at **AAAI, ICANN, ICPR**, open-source contributions, and top-tier quant competition performance. **Seeking Fall 2026 PhD/RA roles in multimodal/medical AI, representation learning, and robotics.**

## EDUCATION

### University of Liverpool (UoL)

BSc in Computing Science, GPA: 3.796/4.0

Liverpool, UK

Expected Jun 2026

### Xi'an Jiaotong-Liverpool University (XJTLU)

BSc in Information & Computing Science, GPA: 3.75/4.0

Suzhou, China

Sep 2022 – Jun 2024

## PUBLICATIONS (SELECTED)

### PG-SAM: Prior-Guided SAM with Medical for Multi-organ Segmentation

2025

– Yiheng Zhong\*, **Zihong Luo\***, et al. [arXiv].

### Incomplete Modality Disentangled Representation for Ophthalmic Diagnosis (AAAI)

2024

– Chengzhi Liu\*, Zile Huang\*, **Zihong Luo**, et al. [Project].

### ARIF: Adaptive Attention-Based Cross-Modal Representation Integration (ICANN)

2024

– Chengzhi Liu\*, **Zihong Luo\***, et al. [SpringerLink].

### MTSA-SNN: Multimodal Time Series via Spiking Neural Networks (ICPR)

2024

– Chengzhi Liu\*, **Zihong Luo\***, et al. [arXiv].

### MC-DBN: Modality Completion with Deep Belief Networks (ICPR)

2024

– **Zihong Luo\***, Chengzhi Liu\*, et al. [arXiv].

### Interpretable ML for Peripheral Neuropathy & LEAD (BMC Medical Informatics)

2024

– Ya Wu, Danmeng Dong, **Zihong Luo**, et al. [SpringerLink].

## RESEARCH EXPERIENCE

### MBZUAI

Research Assistant (Prof. Imran Razzak)

Abu Dhabi, UAE

Dec 2024 – Jul 2025

– Designed a **modality prior aligner** leveraging medical LLM to bridge **text–pixel** semantics; built a **fusion decoder** with iterative mask optimization.

– Validated on **Synapse** and related benchmarks; results released on **arXiv** with open-source code.

### University of Exeter

Summer Research Assistant (Prof. Yanda Meng)

Exeter, UK

Mar 2024 – Aug 2024

– Implemented IMDR with **modal-common** vs **modal-specific** disentanglement and a **proxy learning** module.

– Evaluated on **4 ophthalmology datasets**; gains over prior methods; accepted at **AAAI 2025**.

### Tongji University School of Medicine (TUSM)

Research Contributor (Prof. Xiaoyun Xie)

Shanghai, China

2024

– Built interpretable ML models for **DPN/LEAD** prediction; applied **SHAP** for risk factor analysis aiding DFU prevention.

## XJTLU

Research Assistant (Prof. Xiaobo Jin)

Suzhou, China

Sep 2023 – Nov 2023

- Developed encoder–decoder with attention for **modality completion**; dual losses for accuracy and integration; accepted at **ICPR 2024**.

## XJTLU

Research Assistant (Prof. Shuliang Zhao)

Suzhou, China

Jun 2023 – Sep 2023

- Integrated **image** + **temporal** signals via spiking networks for anomaly detection; published at **ICPR 2024**.

## INDUSTRY EXPERIENCE

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### Jifu Medical (AI Algorithm Group)

Algorithm Intern — Multimodal Robotics & Medical Imaging

Shenzhen, China

Jun 2025 – Aug 2025

- Benchmarked SOTA **action models** (e.g., ACT, ALOHA) for robot-assisted workflows; built **Isaac Sim** RL environment.
- Configured **LeRobot SO-101** dual-arm teleoperation; replicated control pipeline; documented **failure modes** for compliance.
- Developed **multimodal fusion** (endoscopy + magnetic positioning) for robust MCCE anomaly detection.

## SELECTED OPEN-SOURCE PROJECTS

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### LeRobot SO101 Robotic Arm Control

2025

- Implemented **dual-arm** control & teleoperation; dual-camera sync; **50** recorded test episodes uploaded to HF Hub.
- **Tech:** Python, LeRobot, PyTorch, OpenCV    **Hardware:** SO101 arms, dual cameras.

### Wheel-legged Robot Reproduction

2025

- Implemented **5-link** forward/inverse kinematics; cascaded **PID** with IMU feedback; RC teleop for locomotion.
- **Tech:** C++, Arduino    **Hardware:** Wheel-leg platform, IMU, servo/BLDC.

## HONORS & AWARDS

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### International Quant Championship (WorldQuant) — UK Finals (Top 6)

2025

- **Top 0.1%** of **79,000+** participants; advanced to National/Regional Finals; invited to **Consultant Program**.

### China Undergraduate Mathematical Contest in Modelling

2023

- Participant, team-based competition.

### Biology Olympiad

2022

- Provincial **First Prize** & National **Second Prize**.

## SKILLS

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**Programming:** Python, C++, Java, L<sup>A</sup>T<sub>E</sub>X

**ML/DS:** PyTorch, scikit-learn, OpenCV, Jupyter, Matplotlib

**Dev/Platforms:** Git, HuggingFace Hub, Isaac Sim

**OS:** Linux (Ubuntu), Windows

**Languages:** IELTS 7.0