

# ZHENXIN AI

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## PERSONAL SUMMARY

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Incoming Ph.D. student at the Hong Kong University of Science and Technology (Guangzhou), advised by Assistant Prof. Haiyun He. I received my B.Eng. in Artificial Intelligence from Jiangxi University of Science and Technology, advised by Prof. Huilan Luo, and was a visiting student at Westlake University with Assistant Prof. Huan Wang. My research interests include watermarking for multimodal large language models, world models, and computer vision. My recent work has been accepted by ICML 2026, IEEE TCSVT, and IEEE TGRS, with open-source implementations released for related projects.

## EDUCATION

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<b>Hong Kong University of Science and Technology (Guangzhou)</b> <i>Incoming Ph.D. Student</i>	2026 – Expected <i>Advisor: Assistant Prof. Haiyun He</i>
<b>Jiangxi University of Science and Technology</b> <i>B.Eng. in Artificial Intelligence</i>	Sep. 2021 – Jun. 2025 <i>Advisor: Prof. Huilan Luo</i>

## RESEARCH INTERESTS & TECHNICAL SKILLS

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- **Research Interests:** Multimodal Large Language Models, Watermarking for LLMs, World Models, Computer Vision.
- **Programming Languages:** Python, C/C++, MATLAB, Java.
- **Keywords:** Machine Learning, Deep Learning, LLMs, 3D Scene Reconstruction, Salient Object Detection, Remote Sensing.

## RESEARCH & PROFESSIONAL EXPERIENCE

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**Research Assistant, Hong Kong University of Science and Technology (Guangzhou)** Aug. 2025 – Present  
Supervisor: Assistant Prof. Haiyun He. Conducting research on robust watermarking for large language models and multimodal foundation models. Developed PASA, a principled embedding-space watermarking approach for LLM-generated text under semantic-invariant attacks, accepted by ICML 2026.

**Algorithm Intern, Z.AI** Feb. 2025 – Jul. 2025  
Focused on large language model inference and hallucination. Worked on practical LLM workflows including fine-tuning, post-training, deployment, and performance optimization for real-world applications.

**Visiting Student, Encode Lab, Westlake University** Jul. 2024 – Jan. 2025  
Supervisor: Assistant Prof. Huan Wang. Collaborated with researchers from The Hong Kong University of Science and Technology and Lancaster University on single-view 3D scene reconstruction. Co-first authored Niagara, a normal-integrated geometric affine field method accepted by IEEE TCSVT 2025.

**Research Student, Image Processing Lab, Jiangxi University of Science and Technology** May 2023 – Jun. 2025  
Supervisor: Prof. Huilan Luo. Worked on lightweight salient object detection in optical remote sensing, including model design, implementation, experiments, and paper writing. First authored LiteSalNet, accepted by IEEE TGRS 2025.

## PUBLICATIONS

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**PASA: A Principled Embedding-Space Watermarking Approach for LLM-Generated Text under Semantic-Invariant Attacks**

Zhenxin Ai, Haiyun He  
*International Conference on Machine Learning (ICML), 2026. Paper | Project | Code*

**Niagara: Normal-Integrated Geometric Affine Field for Scene Reconstruction from a Single View**

Xianzu Wu\*, Zhenxin Ai\*, Harry Yang, Ser-Nam Lim, Jun Liu, Huan Wang  
*IEEE Transactions on Circuits and Systems for Video Technology (TCSVT), 2025. Paper | Code* \*Equal contribution

**A Lightweight Multi-Stream Framework for Salient Object Detection in Optical Remote Sensing**

Zhenxin Ai, Huilan Luo, Jianqin Wang  
*IEEE Transactions on Geoscience and Remote Sensing (TGRS), 2025. Paper | Code*

## COMPETITIONS AND AWARDS

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- National Third Prize in 2022 Team Programming Contest Tianchi Competition, April 2022
- East Region Third Prize in 14th China College Students Service Outsourcing Innovation and Entrepreneurship Competition, April 2023
- National Third Prize in the 25th China Robot and Artificial Intelligence Competition, June 2023
- National Third Prize in the 16th China Undergraduate Computer Design Contest, July 2024
- Second Prize in Jiangxi Province College Students Innovation Programming Competition, December 2022
- First Prize in Jiangxi Province 25th China Robot and Artificial Intelligence Competition, May 2023
- First Prize in Jiangxi Province 16th China Undergraduate Computer Design Contest, June 2023
- Over ten other provincial-level awards

## COMMUNITY PARTICIPATION / EXTRACURRICULAR ACTIVITIES

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- “Outstanding Volunteer of the Year 2022” at Jiangxi University of Science and Technology
- Excellent Volunteer in the 18th Jiangxi Province “Challenge Cup”
- Minister of Innovation and Entrepreneurship Department, School of Information Engineering
- Two-time participant in “Three Going to the Countryside” social practice activities
- Participated in one winter vacation homecoming practice activity