

YUHANG JIANG

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[Homepage](#) | [Google Scholar](#) | [GitHub](#)

Summary

- EIT Manufacturing double-degree master's in Computer Science (UNITN) and Data Science (SUPSI).
- Research intern at Huawei Pisa Research Center and FBK. Kaggle Competitions Expert.
- First-author work across embodied AI, mechanistic interpretability of state-space models, adversarial robustness, and remote sensing.
- GeoSelect sets the training-free state of the art on both RRSIS-D and RISBench, reaching about 93% of a supervised specialist on RRSIS-D.

Education

EIT Manufacturing Master & Doctoral School (Double Degree) Sep 2023 - Mar 2026
Data Science and AI for a Competitive Manufacturing

- **Università di Trento (UNITN), Italy**
MSc, Computer Science · GPA 98/110
- **University of Applied Sciences and Arts of Southern Switzerland (SUPSI), Switzerland**
Master of Engineering (MSE), Data Science · GPA 5.1/6.0
- **Scholarship:** Recipient of the EIT Manufacturing Scholarship (full tuition waiver + 10,000 EUR/yr)

Anhui University (Project 211), China Sep 2019 - Jun 2023
BEng, Intelligent Science and Technology

- **Average Score:** 84.34/100
- **Awards:** Second Prize for Outstanding Academic Performance (2022); First Prize Scholarship of Academic Science and Technology (2021)
- **Courses:** Machine Learning, Pattern Recognition, Big Data Analysis, Numerical Analysis, Natural Language Processing.

Work Experience

Huawei Pisa Research Center Apr 2026 - Oct 2026
Research Intern Pisa, Italy

- Independently leading a research project on memory for multimodal agents, focused on how visual memories are retrieved and delivered to the model in long-horizon tasks.
- Conducting LLM post-training and data generation, applied to cockpit AI.

Fondazione Bruno Kessler - FBK Mar 2025 - Mar 2026
Research Intern Trentino-Alto Adige, Italy

- Proposed a new embodied perception task and built the first offline multi-view benchmark for active instance verification in realistic 3D environments.
- Designed an MLLM-based agent with attribute decomposition, confidence-weighted multi-view tracking, and next-best-view planning; fine-tuned via LoRA with SFT followed by RL alignment, achieving 85.6% accuracy.

Chengdu Jiaoda Guangmang Technology Co., Ltd. Jul 2022 - Sep 2022
Algorithm Intern Chengdu, Sichuan, China

- Researched the latest machine learning and industrial anomaly detection algorithms.
- Applied GAN models to reconstruct images to identify anomalies and evaluate the performance.
- Used the object detection neural network model to detect abnormal parts in high-speed rail supports.
- Assisted colleagues in developing a set of character recognition patents for LCD meters.

Publications

"The Scissors Effect: When Resize-Based Input Diversity Helps or Hurts Transfer Attacks"

Transactions on Machine Learning Research (TMLR), 2026, [arXiv:2606.22516](#), [OpenReview](#)

Shows that resize-based input diversity, applied by default in transfer attacks, reverses sign on adversarially trained surrogates. Robustness evaluations that apply it blindly are therefore optimistic about the models they test.

Yuhang Jiang, Xiaojing Chen

"PlnVerify: An Offline Embodied Benchmark for Active Instance Verification"

Poster, FMEA Workshop @ CVPR 2026, [Project Page](#), [arXiv:2605.30639](#), [OpenReview](#)

Master's thesis project.

Proposes Active Instance Verification, a new embodied task, and builds the first benchmark for it. Finds that active viewpoint selection gives no reliable gain over choosing at random, and that detection quality, not verification logic, is what binds the task.

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"GeoSelect: Spatial-Program Execution for Training-Free Referring Remote Sensing Image Segmentation"

IEEE TGRS, under review, [Project Page](#), [arXiv:2607.03869](#)

Reframes referring expression resolution as the execution of an explicit spatial program, covering the positional superlative, ordinal, and compositional expressions that continuous fields cannot. Reaches 58.86 mIoU on RRSIS-D and 55.27 on RISBench, more than twice and about 1.7 times the best prior training-free results.

Yuhang Jiang, Guohui Deng*, Miaozhong Xu, Chao Ruan, Jinling Zhao, Linsheng Huang

Note: * indicates the corresponding author.

Preprints and Other Publications

"Detection vs. Execution: Single-Bucket Probes Miss Half the Mamba-2 State Sink"

[arXiv:2606.00930](#) · Recommended for Findings by ARR meta-review.

Names the state sink, the state-space analogue of the attention sink, and shows that representational similarity does not certify function: a near-disjoint set of heads reproduces the same causal effect, so a probe recovers a valid causal set rather than the circuit.

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"Task Structure Reverses Layerwise State Encoding in Sequence Models"

[arXiv:2606.00926](#)

Shows that a layerwise probe profile is evidence about a model together with what it was trained to predict, not about its architecture. Deleting the direction a probe finds does not remove what the probe read, so the near-zero ablation drops usually taken as evidence that a model ignores a feature carry no such evidence.

Yuhang Jiang

"CL-RAG: A Closed-Loop Multimodal Retrieval-Augmented Generation Architecture for Robust Human-Robot Control Interaction"

WRC SARA 2025 (oral) · Bowen Zhang, Yuhang Jiang, Lingxiang Hu, Dun Li, Qianqian Hu*

"Improved lightweight identification of agricultural diseases based on MobileNetV3"

CAIBDA 2022 (oral) · Yuhang Jiang*, Wenping Tong

Software Copyright, Intelligent contract software for agricultural insurance compensation, 2022SR1568111.

Academic Service

Reviewer, FMEA Workshop @ CVPR 2026.

Selected Projects

Research on Semantic Segmentation Method of High-Resolution Remote Sensing Images

May 2023

Outstanding Undergraduate Graduation Project

- Developed an encoder-decoder model with residual-weighted attention for remote sensing segmentation, achieving F1-scores of 90.23% and 87.37% on ISPRS Potsdam and Vaihingen datasets.

Other projects. Multi-objective flexible job-shop scheduling with an enhanced NSGA-II (2025); HGT-GWO, a parallel Grey Wolf Optimizer in C/MPI/OpenMP on UNITN's HPC cluster (2025); AR-based robotic arm control on HoloLens 2 with YOLOv8 and FastSAM (2024).

Competitions

Kaggle March Machine Learning Mania 2025 - Silver Medal (64th / 1,727)

Apr 2025

Solo

Kaggle BirdCLEF 2024 Competition - Bronze Medal (70th / 974)

Jun 2024

Solo

Kaggle BirdCLEF+ 2025 Competition - Bronze Medal (199th / 2,025)

Jun 2025

Solo

Mathematical Contest In Modeling (MCM), Finalist winner (top 1%)

Apr 2021

Leader

- Designed a set of algorithms to assess the degree of hunger around the world and optimize the food supply chain.
- Responsible for modeling, programming and part of paper writing.
- Youngest winner in the history of Anhui University; first winner from the School of Internet.

iCAN Innovation Contest 2021 (Anhui) - Second prize

Oct 2021

Team member

- Developed a set of hardware system capable of intelligently monitoring and warning the abnormal behavior of the elderly.
- Responsible for some STM32 development and project plan writing.

Skills

- **Programming:** Python, C/C++, Matlab, R.
- **ML / DL Frameworks:** PyTorch, scikit-learn; MPI / OpenMP (HPC).
- **LLM / VLM:** multimodal LLMs (MLLMs), post-training (SFT, DPO, GRPO/GSPO), LoRA / PEFT, RAG, LLM agents.
- **Architectures:** Transformer, Mamba, CNN, RNN.
- **Applications:** Image Classification & Segmentation, Industrial Anomaly Detection, Time-Series Analysis.
- **Other:** Unity; Lean Manufacturing & Sustainable Management.

Language

- **English:** Fluent, TOEFL 102
- **Chinese:** Native Speaker