Yingrui Ji

15382266782 jiyingrui1996@gmail.com No. 9 Dengzhuang South Road, Haidian District, Beijing

Education Background

University of Chinese Academy of Sciences 2022.9 – 2026.6

- Machine Learning and Computer Vision Ph.D. Beijing

Institute of Computing Technology, UCAS 2019.9 – 2022.6

- Computer Application Technology (High Performance Computing) Master Beijing/Dalian

Projects

Application of other areas in active learning 2024.08 – Present

- We explore strategies for active learning in other areas. I am also interested in multimodal related projects.

Deep Active Learning with Manifold-Preserving Trajectory Sampling 2024.04 – 2024.08

- We propose a general strategy for active learning. It improving the robustness of sample feature representation and refines uncertainty estimation. Our method consistently outperforms the state-of-the-art. The best result increased by 5.11%.

CausalHalEval: A Benchmark for Evaluating the Hallucination of LLMs from the Perspective of Casual Reasoning and Inference Capabilities 2024.01 – 2024.08

- We propose a benchmark designed to evaluate causal reasoning across textual, mathematical, and coding problem domains.
- Our benchmark examines the relationship between an LLM's performance in causal reasoning and its propensity for producing hallucinations.

UniAutoML: A Human-Centered Framework for Unified Discriminative and Generative AutoML with Large Language Models 2024.01 – 2024.08

- We propose an AutoML framework that leverages Large Language Models (LLMs) to unify the automation of discriminative and generative tasks such as fine-tuning diffusion models or LLMs.

Advancing Out-of-Distribution Detection through Data Purification and Dynamic Activation Function Design 2023.07 – 2023.12

- Propose a lower-noise OOD-R data set to reduce noise and enhance data quality.
- The ActFun activation structure is introduced, which replaces traditional ReLU with versions of ReLU desired in various networks.

Research and Optimizing Implementation of a New Stencil Parallel Algorithm 2021.07 – 2022.06

- Implements a parallel Gauss-Seidel-based tiled tessellation algorithm, generalized as a method for arbitrary problem sizes, tile sizes, and tile starting positions.
- A novel fine-grained placement scheme is proposed.

Publications

- **Yingrui Ji**, Vijaya Sindhoori Kaza, Nishanth Artham, Tianyang Wang, Deep Active Learning with Manifold-Preserving Trajectory Sampling. (Submitted to ICASSP 2025)
- Zeyu Wang, Yizhuo Chang, **Yingrui Ji**, Zhongruo Wang, Yuwang Wang, Zhigang Li, Yiqing Shen, CausalHalEval: A Benchmark for Evaluating the Hallucination of LLMs from the Perspective of Casual Reasoning and Inference Capabilities. (Submitted to AAAI 2025)

- Jiayi Guo, Zan Chen, Yizhuo Chang, **Yingrui Ji**, Daqin Luo, Liyun Zhang, Zhongruo Wang, Zhigang Li, Yiqing Shen, UniAutoML: A Human-Centered Framework for Unified Discriminative and Generative AutoML with Large Language Models. (Submitted to AAAI 2025)
- **Yingrui Ji**, Yao Zhu, Zhigang Li, Jiansheng Chen, Yunlong Kong, Jingbo Chen, Advancing Out-of-Distribution Detection through Data Purification and Dynamic Activation Function Design. IEEE Transactions on Circuits and Systems for Video Technology, 2024. (Under Review)
- Zijie Ding, **Yingrui Ji**, Yan Gan, Yuwen Wang, Yukun Xia, Current Status and Development Trends of Technology, Methods, and Application Fields of Human-computer Intelligent Interaction: Bibliometric Research, 2023. (available accept)
- Yukun Xia, **Yingrui Ji**, Yan Gan, Zijie Ding, Applying Ming furniture features to modern furniture design using deep learning. Artificial Intelligence, Social Computing and Wearable Technologies, 2023. 10.54941/ahfe1004197
- Yan Gan, **Yingrui Ji**, Shuo Jiang, Xinxiong Liu, Zhipeng Feng, Yao Li, Yuan Liu, Integrating aesthetic and emotional preferences in social robot design: An affective design approach with Kansei engineering and a deep convolutional generative adversarial network, International journal of industrial ergonomics. 2021. 10.1016/j.ergon.2021.103128
- Shang H, Duan X, Li F, ……**Yingrui Ji** et al. Many-core acceleration of the first-principles all-electron quantum perturbation calculations. Computer Physics Communications, 2021.

Intern Experience

Qiyuan Lab Research Intern 2023.07 – 2024.08

- Active learning algorithm optimization
- Small algorithm model optimization and datasets optimization for Out-of-Distribution Detection.

NXP Semiconductor Corporation Algorithm Intern 2022.07 – 2022.12

- Complete the conversion of the business model in eiq-toolkit into the form required by users.
- Optimize the training code of eiq-toolkit, reduce redundancy, improve training and test the use cases in the new updated version of eiq-toolkit.

Awards

- The Tenth Blue Bridge Cup National Software and Information Technology Professional Talent Competition Liaoning Division 1st 2019.03
- The Ninth Blue Bridge Cup National Software and Information Technology Professional Talent Competition Liaoning Division 1st 2018.04
- The Eighth Blue Bridge Cup National Software and Information Technology Professional Talent Competition Liaoning Division 2nd 2017.04
- The 4th College Student Mobile Application Development Competition Provincial 2nd 2017.10
- 11th iCAN International Innovation and Entrepreneurship Competition Liaoning Division 3th 2017.09
- Second Class Scholarship for Parallel Software Group, Institute of Computing Technology, Chinese Academy of Sciences 2021.01
- Third Class Academic Scholarship of Parallel Software Group, Institute of Computing Technology, Chinese Academy of Sciences 2022.01

Technical Skills

- Proficient in Python, C language, familiar with Linux basic commands, familiar with basic algorithms and data structures
- Familiar with machine learning, deep learning and its principles, familiar with deep learning framework PyTorch, familiar with common collaborative office tools Git
- Have a certain ability to read English literature