Rui Huang

UESTC | "Everest Project" Computer Top Talent Experimental Class

Information

Age：19 **Class of 2023, Sophomore** **Tel/Wechat**：13966175940 **Email**：huang_rui@std.uestc.edu.cn

Education

UESTC - "Everest Project" Computer Top Talent Experimental Class *2023.09 – 2027.06*

- **Grade: 96.26** Calculus: 97 Linear Algebra: 98 GPA: 3.98/4 **Ranking: 1/334**

Research

2023.12 – 2025.06

Generative AI and Multimodal Modeling

- **Diffusion Dataset Condensation: Training Your Diffusion Model Faster with Less Data**

  Neruips 2025 (CCF-A，**First Author**) Under Review

Proposed D²C: Diffusion Dataset Condensation for diffusion models, enabling 100× faster training with 0.8%–4% data via sample selection and semantic enhancement; **trained on hundreds of A800/H100 GPUs.**

- **Can We Generate Images with CoT? Let's Verify and Reinforce Image Generation Step by Step**

  CVPR 2025 & IJCV extension planed (CCF-A**, Co-First Author) Github 700+stars**

Proposed CoT-Image with step-wise reasoning and novel reward models (PARM/PARM++), improving autoregressive image generation by 24% via test-time verification and preference alignment.

- **Wavelet-Assisted Multi-Frequency Attention Network for Pansharpening**

  AAAI 2025 **Oral**（**Co-First Author**） Accepted

Proposed WFANet for image fusion, combining wavelet transformation with attention, achieving SOTA on multiple datasets.

Smart Power Systems and Load Forecasting

- **Complementary Online Learning Network for Probabilistic Load Forecasting Against Extreme Weather**

  IEEE TII (SCI Q1，IF 10.215，**First Author**) Under Review

Proposed the Complementary Online Learning Network (COLNet) with a Weather-aware gating mechanism for high-precision probabilistic and point forecasting under extreme weather.

- **Causal Mechanism-Enabled Zero-Label Learning for Power Generation Forecasting of Newly-Built PV Sites**

  IEEE TSTE（SCI Q1，IF 7.9，**second author(student)**）**Accepted**

Proposed a causal mechanism-based unsupervised domain adaptation method (CEDAN) for power prediction in new PV sites, achieving higher accuracy than existing transfer learning methods.

Projects

- **CUHK MM Lab** **Research Assistant**

  Conducted CoT-Image research under Prof. Hongsheng Li, co-first author; studied LLM reasoning and MLLM generation.

- **HKUST(Guangzhou)** **Research Assistant**

  Completed D²C (NeurIPS 2025 submission) as first author; focused on diffusion models and data condensation.

- **University of Cambridge** **Visiting Students**

  Participated in AI track; conducted a load forecasting project and received Excellent Student Award.

Selected Honors and Awards

National Scholarship **Top 6 in College** **SenseTime Scholarship** **30 Recipients Nationwide**

National College Students' Career Planning Contest **First Prize** **Ganen Modern Science Fellowship** **Top 10 in School**