MENG WANG

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EDUCATION

University of Rochester
M.S. in Computer Science, GPA 3.91
The Hong Kong Polytechnic University
B.S. in Computing (II-1 Honor), GPA 3.50, Dean's List 2019-20, URIS Scholarship 2021-23

SKILLS

Python, PyTorch, Java, MySQL, Javascript (Vue), Docker, AWS, Hadoop, Shell, Vim, Git

EXPERIENCE

Independent Researcher at Interplay Lab

University of Rochester, Supervised by Zhen Bai

 \cdot Develop an LLM-based conversational agentic framework, guided by linguistic and educational theories, to engage children in collaborative reasoning during reading activities. Adapt the LLM to the cognitive and developmental level of K–12 students with techniques including RAG and ReACT prompting, fine-tuning, and reinforcement learning.

 \cdot Host the LLM as a web service with Docker and Kubernetes, capable of handling request rates over 40 per minute.

Research Assistant at Earth Imaging Lab

University of Rochester, Supervised by Tolulope Olugboji

- \cdot Develop generative models for unstructured data, improving fidelity by 20%, leveraging WGAN and DCGAN models.
- \cdot Design a physics-informed neural network, iCADNet, to solve the inverse Radon transform for seismic wave migration, demonstrating an 100% speed-up than traditional approach.

Student Researcher 09/2022 - 08/2023 The Hong Kong Polytechnic University, Supervised by Chao Huang Hong Kong SAR.

· Lead a team of 3. Develop an Arificial-Potential-Field algorithm to support human-AI collaborative driving, showing superior performance in both simulated (CARLA) and real-life (ROS car) scenarios.

Network Security Intern

CGN Begood Technology Co., Ltd.

 $\cdot\,$ Develop backend security designs conforming to RESTful API.

 \cdot Develop, deploy, and maintain several micro-services using Java and NGINX based on the Alibaba web service framework focused on load balancing and security.

RESEARCH PROJECTS

Real-Time Image Search with Natural Language for Unsplash

- $\cdot\,$ Train and fine-tune a CLIP and CLIP-RoBERTa model on MSCOCO dataset and Unsplash Lite Dataset.
- · Build and deploy a machine learning based real-time natural language search engine on AWS Sagemaker that support batch fine-grained text queries, using a fine-tuned CLIP model and Unsplash API.

Compressed Video Quality Enhancement

Supervised by Changwen Chen

· Design a BasicVSR-extended recurrent neural network for video super-resolution, which outperforms BasicVSR in streaming media video data (YouTube) on PSNR, SSIM & LPIPS metric by 5%.

PAPERS

Wang, H., Wang, M., He, H. & Bai, Z. (Under review). Small Arguments, Big Ideas: Fostering Children's Collaborative Reasoning with LLM Agents. Submitted to 26th International Conference on Artificial Intelligence in Education.
Wang, M. & Olugboji, T. (2025). Deep Algorithm Unrolling for Seismic Migration. IEEE Conference on Computational Imaging Using synthetic apertures (CISA).

06/2022 - 07/2022

Nanchang, China

09/2023 - 05/2025

09/2019 - 06/2023

10/2024 - 05/2025 Rochester, NY

06/2024 - 05/2025

Rochester, NY