Yangrui Gong

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Education

Huazhong University of Science and Technology, China Electronic Information Engineering

University of Wisconsin - Madison, the United States Visiting Student

ACADEMIC EXPERIENCE

Huazhong University of Science and Technology - RoboMaster

Membership

- Based on the STM32F1 series microcontrollers and using the Keil uVision development environment, I designed and implemented functions such as obstacle avoidance, line tracking, positioning, and 360 degree turning for an intelligent car.
- Utilized GPIO, timer, and PWM modules of STM32 to control motors and sensors.
- Huazhong University of Science and Technology Professor Xin Yang's laboratoryJuly 2023 May 2024Research AssistantWuhan, China
 - Introduced the Snake Attention module (SA), which can adaptively aggregate vessel features based on the morphological structure of the vessels, enabling better identification of blood vessels in downstream tasks.
 - Played a supporting role in manuscript revision, data analysis, figure creation, visualization, and code modification.
 - As my first research experience, I immersed myself in the field of medical image restoration by extensively reviewing cutting-edge literature and actively contributing to the project's development.

University of North Carolina at Chapel Hill - Professor Huaxiu Yao's laboratory Research Assistant

- Led the deployment of the RadFM medical large language model and was responsible for integrating data from various medical large language models to conduct comprehensive benchmark measurements.
- Participated in the integration of different data and visualization.

PUBLICATIONS

Xiaohuan Ding, Gong Yangrui, Tianyi Shi, Zihang Huang, Gangwei Xu, Xin Yang, Masked Snake Attention for Fundus Image Restoration with Vessel Preservation, in *Proceeding of the Thirty-Second Conference on ACM Mul*timedia(ACM MM 2024).

Peng Xia, Ze Chen, Juanxi Tian*, **Yangrui Gong***, Ruibo Hou, Yue Xu, Zhenbang Wu, Zhiyuan Fan, Yiyang Zhou, Kangyu Zhu, Wenhao Zheng, Zhaoyang Wang, Xiao Wang, Xuchao Zhang, Chetan Bansal, Marc Niethammer, Junzhou Huang, Hongtu Zhu, Yun Li, Jimeng Sun, Zongyuan Ge, Gang Li, James Zou, Huaxiu Yao, **CARES: A Comprehensive Benchmark of Trustworthiness in Medical Vision Language Models**, in *Proceeding of the Thirty-Eighth Conference on Neural Information Processing Systems Track on Datasets & Benchmarks*(**NeurIPS 2024**) (*Equal contribution).

ACHIEVEMENTS

Study Self-Reliance Scholarship Rugby Provincial Champion	Achieved excellent grades in the first academic year. Won the championship in the first Hubei Provincial Rugby Champi- onship	2023 2023
Rugby Provincial Champion	Won the championship in the second Hubei Provincial Rugby Cham- pionship	2024

TECHNICAL SKILLS

Programming languages: C, Python, Java **Research skills:** Git, Tmux, Latex

ML/AI: Pytorch, Numpy, Scipy

Relevant Courses

Computer Science: Deep Learning, Data Structures and Algorithms, Principles of Computer OrganizationMathematics: Probability and Random Processes, Number Theory, Linear AlgebraCourses in UW-Madison: LIS501-Introduction to Text Mining, ECE539-Introduction to Artificial Neural Networks

Sept 2022 - Feb 2023 Wuhan, China

May 2024 - September 2024

Remote

Sept 2022 - Jun 2026 (expected) GPA: 4.08/5.0

Jan 2025 - May 2025 (expected)