

Jiarong Liang

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EDUCATION

University of Waterloo <i>Research Assistant at the TIGER Lab, advised by Prof. Wenhua Chen.</i>	Waterloo, Canada 2025 – Present
Washington University in St. Louis(WUSTL) <i>Master of Science in Computer Science, GPA 4.0/4.0</i>	St. Louis, USA 2022 – 2024
South China University of Technology(SCUT) <i>Bachelor of Engineering in Computer Science, GPA 3.85/4.0, Rank 8/160</i>	Guangzhou, China 2018 – 2022

PUBLICATIONS

VisPhyWorld: Probing Physical Reasoning via Code-Driven Video Reconstruction	Under review ICML'26
• Jiarong Liang* , Max Ku*, Ka-Hei Hui, Ping Nie, Wenhua Chen.	
• Built VisPhyWorld , an execution-based benchmark that tests MLLMs' physical reasoning by having them generate executable simulator code from visual inputs.	
• Released VisPhyBench (209 scenes, 108 templates) and showed SOTA MLLMs often match semantics but fail to recover physical parameters and consistent dynamics.	
SWE-Next: Scalable Real-World Tasks for Software Engineering Agents	
• Jiarong Liang* , Zhiheng Lyu*, Xiangchao Chen, Zijie Liu, Ping Nie, Yuyu Zhang, Wenhua Chen.	
• Built SWE-Next , an execution-grounded pipeline that automatically turns real GitHub pull requests into runnable tasks by validating commit pairs via test execution and filtering for strict improvements without regressions.	
• Introduced reusable environment profiles and containerized, gated trajectory collection to cut build/storage overhead and enable scalable dataset construction and stronger downstream SWE agent performance.	
VisCoder2: Building Multi-Language Visualization Coding Agents	ICLR'26
• Yuansheng Ni*, Songcheng Cai*, Xiangchao Chen*, Jiarong Liang , Zhiheng Lyu, Jiaqi Deng, Kai Zou, Ping Nie, Fei Yuan, Xiang Yue, Wenhua Chen.	

EXPERIENCE

Software Engineer Intern <i>Tencent</i>	2020 – 2021
• Contributed to servers cluster stability of mobile League of Legends and Honor Of Kings .	
• Implemented a back-end program using Golang responds to user requests, uses redis as a cache, and mysql stores data, which can handle a large number of requests in a short time.	
• Improved the stability and containerized the servers cluster by using Docker and Golang to improve efficiency	
• Containerized the back-end services using Kubernetes and Golang to manage over 20,000 servers	
• Built master node to control work node using Kubernetes , built server node management to allocate free resources and removed the problematic nodes, which improved stability rate by 18% for system	
• Featured across 5 news networks attracted over 30,000 new users using app	
Graduate Research Assistant <i>Washington University in St. Louis</i>	2022 – 2024
• Implemented a detection network Mask-RCNN with HTCmask using Openmmlab , Pytorch , and Colab to classify objects in pictures and identify object outlines from the autonomous driving system	
• Redesigned the underwater camera image acquisition using UNet and Pytorch to analyze track of fish on over 1000 pictures	

TECHNICAL SKILLS

Languages: Swift, UIKit, Golang, Java, Python, C/C++/C#, SQL, JavaScript, HTML/CSS

Technology Stack: Figma, Docker, Kubernetes, Vue, Node.js, Flask, Git, REST API, AWS, Apache, Nginx, Redis, MySQL

LLM/Agent Stack: vLLM, LiteLLM, Hugging Face Transformers, DeepSpeed, ms-swift, Ray, LLaMA-Factory