Shiyun Xiong

+86 15571600452 christine_shiyunx@outlook.com

EDUCATION

Harbin Institute of Technology **Weihai, China**

Bachelor of Software Engineering *Sep. 2021 – Jun. 2025(Expected)*

- Weighted Average: 89.6/100
- Honours & Awards: The People's Scholarship in China (top 10%)
- Main course: Linear Algebra(92), Calculus(92), Probability theory and mathematical statistics(90), Introduction to Artificial Intelligence(92), Data Structure(94), Database System(97), Operating Systems(94), Introduction to Cloud Computing(92)

RESEARCH EXPERIENCES

Self-Evolving Intelligent Agents in Visual Web Environments **Work with Zhiyuan Hu**

National University of Singapore, SoC/IDS *Apr. 2024 – Present*

- This project aims to enhance agent interaction within various visual digital platforms using a proprietary reward model. The goal is to enable agents to adapt based on user interactions and environmental feedback.
- My contributions: Designed an agent framework where agents interact with the different environments using various prompting methods and constructed training data for different reward models based on existing data features. Moving forward, the focus will be on applying the method in realistic, dynamic environments by integrating reinforcement learning techniques to achieve objectives.

Multi-Agent Framework for Web Services with Fuzzy Requirements **Advisor: Prof. Zhiying Tu**

Research Center of Intelligent Computing for Enterprises & Services (ICES, HIT) *Jan 2024 – Apr.2024*

- This project implemented H-Tower, the first LLM-based multi-agent framework simulating multi-turn interactions between humans and websites. It achieves emotion-aware elicitation of complex requirements and mass-produces training data for this task.
- My contributions: Addressed challenges posed by fuzzy user requirements in conversational settings, developed techniques utilizing multiple agents to efficiently elicit comprehensive user needs. Additionally, validated H-Tower's effectiveness through experiments showing its accuracy in reasoning tasks and its zero-shot generalization ability on out-of-distribution websites.

A Benchmark for Universal Instruction Following in Realistic Web Services Navigation **Advisor: Prof. Dianhui Chu**

Research Center of Intelligent Computing for Enterprises & Services (ICES, HIT) *Oct. 2023 – Mar. 2024*

- This project constructed the first Chinese multi-modal benchmark and dataset to evaluate web service navigation tasks and devised an efficient multi-modal framework to evaluate performance on the dataset.
- My contributions: Developed a multi-modal framework integrating slot tree maintenance, instruction parsing, and web execution, achieving a 68.61% success rate in automatic web navigation. Proposed using object detection to filter noise from web pages, converting visual information into language data and fine-tuned a large language model for better slot tree utilization.

PUBLICATIONS

Bolin Zhang, **Shiyun Xiong**, Dianbo Sui, Yunzhe Xu, Zhiying Tu, and Dianhui Chu. 2024. **"RealWeb: A Benchmark for Universal Instruction Following in Realistic Web Services Navigation."** In *2024 IEEE International Conference on Web Services (ICWS)* (CCF B)

PROJECTS

Training Information Management System (Leader of the team) **Apr. 2023 – May. 2023**

- Developed a training information management system with front-end/back-end separation framework, integrating core features to streamline training processes efficiently. This architecture enhanced performance for efficient training life-cycle management.

COMPETITIONS

China Undergraduate Mathematical Contest in Model (CUMCM) (First Prize in Shandong Division) **Sep. 2023**

- **Title**: Optimization Model of Heliostat Field Based on Adaptive Gravitational Search Algorithm
- Developed an efficient ray field model for analyzing optical parameters and utilized the Adaptive Gravitational Search Algorithm (AGSA) to optimize heliostat configurations, resulting in substantial annual average thermal power output.

SKILLS

Technical Skills and Tools: Python, C++, C, Java, Matlab, Java, Pytorch, SQL, Selenium, Android Studio, etc.

Languages: Chinese Mandarin (naive), English (CET 4: 613, CET 6: 564)