Charlie Weijia Zhang

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EDUCATION

University of Illinois Urbana-Champaign (UIUC) Graduation Date: May 2026
B.S in Computer Science and Mathematics *GPA:3.86/4.0 (Dean's List)*
Coursework: *Algorithms, Systems Programming, Networks, Database Systems, Data Structures, Computer Architecture,*
Probability, Numerical Analysis, Programming Language & Compilers, ML, NLP

WORK EXPERIENCE

Microsoft July 2025 – Present
Research Intern in Data, Knowledge, and Intelligence Group
- Research on **multimodal agent** in chart for Microsoft Copilot in Excel

Reborn Network May 2023 – July 2023
AI Software Developer Intern
- Developed **multiplayer Role-playing agents framework** enabling dynamic interactions (text, voice, action) with AI NPCs in VR environments, including IK and function calling support for physical and directive user engagements
- Designed and implemented seamless voice interactions ($< 1s$ latency) in VR, enhancing real-time AI agent responsiveness
- Managed **long-term memory** using vector database with dynamic ADD/UPDATE/DELETE operations
- Designed character card system for importing/exporting/sharing NPC personas

Tencent Aug 2024 – Sep 2024
Software Engineer Intern in Wechat Group
- Developed a **hardware performance tool** and **Unity Memory performance tool** for Wechat Mini Program

NetEase July 2024 – Aug 2024
Software Engineer Intern
- Designed and developed a **full-stack** game art assets database with dependency graph using **SQLite, Flask, and Vue.js**

RESEARCH EXPERIENCE

OpenManus-RL: Better Memory Planning Agent in General Environments via Jan 2025 – Present
Reinforcement Learning *Research Assitant*
- Implemented REACT reasoning architecture (*think→act→tool-use*) and multi-agent flow for action optimization
- Built MCP-compatible tool framework supporting automated tool invocation and output processing
- Constructed SFT datasets compatible with AgentBench environment (Gaia, WebArena, WebShop, AlfWorld)

Understanding and Mitigating Bias Inheritance in LLM-based Data Augmentation Nov 2024 – Feb 2025
Research Assistant
- Executed 30+ fine-tuning experiments using Llama-3.1 and ChatGPT-o1-mini with controlled bias blend ratios
- Developed automated pipeline for synthetic data generation, bias injection, LoRA fine-tuning, and evaluation
- Implemented and compared three bias mitigation strategies: token-based, mask-based, and loss-based approaches

Artificial Leviathan: LLM Agent Social Evolution via Hobbesian Contract Theory Sep 2023 – May 2024
First Co-Author
- Designed multi-agent social simulation framework to model social contract formation
- Implemented persona-encoding via prompt engineering and personalized QA sets for differentiated agent personalities
- Developed agent economic system and AI policy generation framework

SKILLS

Languages: C/C++, C#, Java, Python, JavaScript/Typescript, HTML/CSS, SQL, Rust
Frameworks: React, Node.js, Flask, Git, Docker, AWS/Azure/GCP
LLM Technologies: Context Engineering, RAG, MCP, LangChain, Vector Database
Developer Tools: Git, Docker, Google Cloud Platform, Azure, AWS

ACTIVITIES & LEADERSHIP

* Research Assistant at UIUC U Lab, under Professor Jiaxuan You, specializing in LLM agents and NLP fields.
* Game Programmer at UIUC Stu/Dio, under Professor Dan Cermak
* UIUC ACM GameBuilder Exec/Programming Lead
* UIUC CS233(Computer Architecture) Course Assistant
* UIUC MechMania28 AI Hackathon - 2nd Place Winner