Sicheng He

✉ sichengh@usc.edu · ☎ (+1) 213-304-6519 · ⌂ heisc73 · in sicheng-he

🎓 Education

University of Southern California, Los Angeles, CA   01/2024 – 05/2026 (anticipated)

M.S. in Computer Science

Tsinghua University, Beijing, China   08/2019 – 06/2023

B.E. in Electronic Information Science and Technology, GPA: 3.54/4

👥 Experience

USC Robotic Embedded Systems Laboratory Los Angeles, CA   01/2024 – now

Research Assistant (Part-Time)

Bimanual Manipulation

- TO DO

Tsinghua NICS-EFC Beijing, China   08/2023 – 01/2024

Research Intern   Advisor: Dr. Chao Yu

Multi-Agent Reinforcement Learning for Drone Control

- Achieved over 90% success in cooperative drone juggling tasks
- Investigated self-play algorithms (e.g., PSRO) in adversarial scenarios
- Replace the motion planning module with RL techniques in a quadrotor ball playing system

HKUST Stat and ML Research Group Hong Kong, China   07/2022 – 10/2022

Summer Intern   Advisor: Dr. Xiao Zhou

Effective Sparsification of Neural Networks

- Implemented smaller dense subnetworks equivalent to sparse ones on Bert, VGG and other architectures
- Built a framework for a distributed training algorithm to mitigate the dependence on data copying
- Achieved speedup in pretraining Bert with negligible performance loss

Moka HR Beijing, China   02/2023 – 06/2023

NLP Intern

Instance Generation & Embedding

- Developed a data annotation application using Gradio
- Applied the self-instruct method to create instructions and instances within the HRM domain
- Finetuned and evaluated M3E3, a general-purpose text embedding model for Chinese

🚀 Projects

⌂ **gomoku_rl**: train an AI to master the game of Gomoku

- Implemented a GPU-parallelized gomoku environment for a faster reinforcement learning training pipeline
- Trained agents that attained human-level performance on a 15×15 board using PSRO

⚙ Skills

- Programming Languages: Python, C/C++, C#, Golang, Rust
- Tools and Frameworks: Pytorch, Git, Qt, Markdown, LaTeX