

SICHENG HE

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🎓 EDUCATION

University of Southern California

M.S. in Computer Science

Los Angeles, CA

Jan 2024 - now

Tsinghua University

B.E. in Electronic Engineering

Beijing, China

Sept 2019 – Jul 2023

👥 EXPERIENCE

USC Robotic Embedded Systems Laboratory

Research Assistant

Los Angeles, CA

Feb 2024 – now

Imitation Learning for Bimanual Manipulation as a baseline

- Integrated the ACT algorithm within our repository as a baseline

Tsinghua NICS-EFC

Research Intern Advisor: Dr. Chao Yu

Beijing, China

Aug 2023 – Jan 2024

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

Summer Intern Advisor: Dr. Xiao Zhou

Hong Kong, China

Jul 2022 – Oct 2022

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

NLP Intern

Beijing, China

Feb 2023 – Jun 2023

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

- Created a GPU-parallelized gomoku environment for a faster reinforcement learning training pipeline
- Implemented PPO, DQN, independent RL and PSRO
- Trained agents to achieve human-level proficiency in Gomoku on a 15×15 board within hours

⚙️ SKILLS

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