SICHENG HE

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🎓 EDUCATION

University of Southern California (USC) · Los Angeles, CA
M.S. in Computer Science · *Jan 2024 - now*

Tsinghua University (THU) · Beijing, China
B.E. in Electronic Engineering · *Sept 2019 – Jul 2023*

👥 EXPERIENCE

USC Robotic Embedded Systems Laboratory · Los Angeles, CA
Research Assistant   Advisor: Prof. Gaurav Sukhatme · *Feb 2024 – now*

Imitation Learning for Bimanual Manipulation
- Adapted ACT and Diffusion Policy for bimanual manipulation tasks in contact-rich environments

Tsinghua NICS-EFC · Beijing, China
Research Intern   Advisor: Dr. Chao Yu · *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 · Hong Kong, China
Summer Intern   Advisor: Dr. Xiao Zhou · *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 · Beijing, China
NLP Intern · *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	Python, C/C++
Simulation Environments	Isaac Sim, MuJoCo
Languages	Chinese (Native), English