

# SICHENG HE

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## 🎓 EDUCATION

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**University of Southern California**, Los Angeles, CA 01/2024 – now

M.S. in Computer Science (General Track), expected to graduate in May 2026

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

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

## 👤 EXPERIENCE

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**Tsinghua NICS-EFC** Beijing, China 08/2023 – 12/2023

*Research Intern* Advisor: Dr. Chao Yu

Multi-Agent Reinforcement Learning for Drone Control

- Implemented two cooperative tasks for multiple drones within the Omnidrones platform.
- Attained success rates exceeding 90% in training drones to accomplish assigned tasks
- Explored the application of MARL algorithms like PSRO and NFSP in adversarial settings

**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

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🔗 **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  $15 \times 15$  board using PSRO

## ⚙️ SKILLS

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- Programming Languages: Python, C/C++, C#, Golang, Rust
- Tools and Frameworks: Linux, Git, Pytorch,  $\text{\LaTeX}$