

# SICHENG HE

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## 🎓 EDUCATION

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**University of Southern California**, Los Angeles, CA Jan 2024 – Present

M.S. in Computer Science (Expected Jun 2026)

**Tsinghua University**, Beijing, China Aug 2019 – Jun 2023

B.S. in Electronic Information Science and Technology

## 👥 EXPERIENCE

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**NICS-EFC in Tsinghua EE** Beijing, China Aug 2023 – Dec 2023

*Research Intern* Advisor: Chao Yu

MARL on drone control

- Implemented two multi-drone cooperative tasks in Omnidrones (a platform based on Isaac Sim)
- Achieved over 90% success rates in training drones to complete the tasks
- Examined the factors contributing to variations in evaluation results for PPO policies under stochastic and deterministic conditions.
- Explored the adoption of self-play algorithms such as NFSP in adversarial settings

**HKUST CSE** Hong Kong, China Jul 2022 – Oct 2022

*Summer Intern* Advisor: 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 Feb 2023 – Jun 2023

*NLP Intern* Mentor: Yuxin Wang

Instance Generation & Embedding

- Built an application for internal data annotation using Gradio
- Generated instructions and instances in the field of HRM following the self-instruct method
- Contributed to M3E3, a general-purpose text embedding model for Chinese

## 🚀 PROJECTS

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**gomoku\_rl**: train AI to play gomoku

- GPU-parallelized simulation, million-scale FPS
- algorithms like PPO/NFSP

## ⚙️ SKILLS

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- Programming Languages: Python, C/C++, C#, Golang, Rust
- Technologies/Frameworks: Linux, Git, Pytorch
- Areas of interests: Reinforcement Learning, Unsupervised Learning