

# Sicheng He

hesicheng20@gmail.com | github.com/hesic73 | hesicheng.net

## Education

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**University of Southern California** 2024/01 – 2026/05 (expected)  
M.S. in Computer Science Los Angeles, CA

**Tsinghua University** 2019/09 – 2023/07  
B.E. in Electronic Engineering Beijing, China

## Publications

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- I-Chun Arthur Liu, **Sicheng He**, Daniel Seita<sup>†</sup>, and Gaurav S. Sukhatme<sup>†</sup>. VoxAct-B: Voxel-Based Acting and Stabilizing Policy for Bimanual Manipulation. In Conference on Robot Learning (CoRL), 2024. [Website](#).

## Research Experience

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**USC Robotic Embedded Systems Laboratory** 2024/02 – 2024/07  
Research Assistant · Advisor: Prof. Gaurav Sukhatme Los Angeles, CA  
Imitation Learning for Bimanual Manipulation  

- Adapted ACT and Diffusion Policy for bimanual manipulation tasks in RLBench.

**Tsinghua Nanoscale Integrated Circuits and Systems Lab** 2023/08 – 2024/01  
Research Intern · Advisor: Dr. Chao Yu Beijing, China  
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 Statistics and Machine Learning Research Group** 2022/07 – 2022/10  
Summer Intern · Advisor: Dr. Xiao Zhou Hong Kong, China  
Effective Sparsification of Neural Networks  

- Implemented smaller dense subnetworks equivalent to sparse ones on Bert.
- Achieved speedup in pretraining Bert with negligible performance loss.

## Work Experience

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**Moka HR** 2023/02 – 2023/06  
NLP Intern · Mentor: Ze Liu, Yuxin Wang Beijing, China  
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 2023/10 – 2023/12  

- 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  $15 \times 15$  board within hours.

## Skills

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**Programming** Python, C/C++  
**Simulation Environments** Isaac Sim, ManiSkill, MuJoCo  
**Languages** Chinese (Native), English