

Yao He

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 🌐 [shockwaveHe](https://shockwavehe.github.io) | 🌐 [yaohe09](https://yaohe09.github.io) | 🌐 shockwavehe.github.io | 🌐 Yao He

Education

Stanford University

M.S. in Electrical Engineering

• GPA: 4.033/4.0

Stanford, CA

2024-2026 (expected)

The Chinese University of Hong Kong, Shenzhen (CUHK-Shenzhen)

Guangdong, China

B.E. in Electronic Information

2018-2022

• First Class Honnor

• MGPA: 3.864/4.0 (2/44), CGPA: 3.783/4.0 (6/144)

• Scholarship & Award: 2020-2021 CUHK-Shenzhen Excellent Student Award (Top 1%), Academic Performance Scholarship (2019-2021 for Top 5%), Dean's Lists of School of Science and Engineering (2019-2022), Shaw College Master's List (2019-2021 for Top 5%), Bowen Scholarship (2018-2022)

Publications

Ordered by year

- [1] **Robot Trains Robot: Automatic Real-World Policy Adaptation and Learning for Humanoids**
Kaizhe Hu*, Haochen Shi*, **Yao He**, Weizhuo Wang, C. Karen Liu, Shuran Song
2025 Conference on Robot Learning (CoRL) [Project Website]
- [2] **Feed-forward Human Performance Capture via Progressive Canonical Space Updates**
YoungJoong Kwon, **Yao He**, Hee Jung Choi, Chen Geng, Zhengmao Liu, Jiajun Wu, Ehsan Adeli
The Thirty-ninth Annual Conference on Neural Information Processing Systems (NeurIPS), (Under review)
- [3] **Artist-Created Mesh Generation from Raw Observation**
Yao He, Youngjoong Kwon, Wenxiao Cai, Ehsan Adel
International Conference on Computer Vision (ICCV), 2025, End-to-End 3D Learning Workshop.
- [4] **Stem-OB: Generalizable Visual Imitation Learning with Stem-Like Convergent Observation through Diffusion Inversion** [Project Website]
Kaizhe Hu*, Zihang Rui*, **Yao He**, Yuyao Liu, Pu Hua, Huazhe Xu
The Thirteenth International Conference on Learning Representations (ICLR), 2025, (Spotlight).
- [5] **Vision-Enabled Safety for High-Speed Detection and Avoid** [Project Website]
Parv Kapoor*, Ian Higgins*, Nikhil Keetha*, Jay Patrikar*, Brady Moan, Zelin Ye, **Yao He**, Ivan Cisneros, Yaoyu Hu,
Changliu Liu, Eunsuk Kang, Sebastian Scherer
Robotics Science and Systems (RSS) 2025.
- [6] **FIReStereo: Forest InfraRed Stereo Dataset for UAS Depth Perception in Visually Degraded Environments** [Project Website]
Devansh Dhrafani*, Yifei Liu*, Andrew Jong, Ukcheol Shin, **Yao He**, Tyler Harp, Yaoyu Hu, Jean Oh, Sebastian Scherer
IEEE Robotics and Automation Letters, 2025.
- [7] **FoundLoc: Vision-based Onboard Aerial Localization in the Wild** [Project Website]
Yao He*, Ivan Cisneros*, Nikhil Keetha, Jay Patrikar, Zelin Ye, Ian Higgins, Yaoyu Hu, Parv Kapoor, Sebastian Scherer
IEEE Robotics and Automation Letters, (Under Review)
- [8] **Towards Robust Visual-Inertial Odometry with Multiple Non-Overlapping Monocular Cameras** [Paper] [Repo] [Video]
Yao He, Huai Yu, Wen Yang, Sebastian Scherer
IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS), 2022
- [9] **Computational Efficient Simulation of Kelvin Wake for Unmanned Surface Vehicles** [Paper] [Repo]
Yao He, Qinbo Sun, Weimin Qi, Xiaoqiang Ji, Huihuan Qian
IEEE International Conference on Real-time Computing and Robotics (RCAR), 2021

*=Equal Authorship

Experience

Robotics and Embodied Artificial Intelligence Lab (REAL), The Movement Lab (TML)

Member of Toddlerbot team advised by **Prof. Shuran Song** and **Prof. C. Karen Liu**

Stanford, CA

Jan 2025 – Present

Stanford Translational AI Lab (STAI), Stanford Vision & Learning Lab (SVL)

Graduate Research Student advised by **Prof. Ehsan Adeli** and **Prof. Youngjoong Kwon**

Stanford, CA

Sep 2024 – Present

Tsinghua Embodied AI Lab, Institute for Interdisciplinary Information Sciences, Tsinghua University

Mentored by **Prof. Huazhe Xu**

Beijing, China

June 2024 – Sept 2024

AirLab, Carnegie Mellon University

Research Assistant Advised by **Prof. Sebastian Scherer**

Robotics Institute Summer Scholar (RISS) advised by **Prof. Sebastian Scherer** and **Prof. Huai Yu**

Pittsburgh, PA

Nov. 2022 – May 2024

May 2021 – Aug. 2021

Robotics & Artificial Intelligence Laboratory, CUHK-Shenzhen

Undergraduate Research Intern Mentored by **Prof. Huihuan Qian**

Shenzhen, China

Sept. 2020 – May 2021

Leadership & Service

Reviewer

2021 - Present

- IJRR, RA-L, IROS, ICRA, CVPR

CMU MRSD Team Mentor [MRSD Program](#)

Sept. 2023 - Present

Mentoring CMU MRSD students to work on hands-on robotics topics proposed by an industry partner or CMU lab

- Team: Resilient Subcanopy UAS Navigation Through Smoke for Wildfire Applications

Tartan Planning Series [Website](#)

Mar. 2023 - May. 2023

Organizer

- Organized an interactive series of talks, tutorials, and learning on planning for robotics with world-renowned pioneers

ICCV SLAM Challenge [Website](#)

Mar. 2023 - May. 2023

Organizer

- Provide datasets TartanAir and SubT-MRS, aiming to push the robustness of SLAM algorithms in challenging environments and advance sim-to-real transfer.
- My work on Multispectral Inertial Odometry (MSO) is present at [SLAM Challenge Summary](#)

Teaching

Sept. 2020 - May. 2022

Undergraduate Student Teaching Fellow

CUHK-Shenzhen

- PHY1001 Mechanics (19 Fall), MAT1002 Calculus II (20 spring), CSC3002 Introduction to Computer Science: Programming Paradigms (21 spring), MAT2002 Ordinary Differential Equations (22 Spring)

Skills

Programming Languages: Python, C/C++, CUDA, Matlab, Julia

Libraries: OpenCV, Eigen, Ceres, NVIDIA VPI, Pytorch, PCL, Numpy

Environments & Tools: Linux, ROS, Docker, CMake, Conda, UE4/AirSim, IsaacSim, Git, Jupyter