

Han YANG

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RESEARCH INTERESTS

Robotic Micromanipulation, Reinforcement Learning, 3D Visual Perception, 3D Reconstruction

EDUCATION

- | | |
|--|--|
| • The Chinese University of Hong Kong, Shenzhen
<i>Ph.D. in Computer and Information Engineering</i>
◦ Supervisor: Prof. Zhuoran Zhang & Prof. Yu Sun | <i>Sep 2023 - present</i>
Shenzhen, China |
| • Hong Kong Baptist University
<i>B.S. in Computer Science</i>
◦ Supervisor: Prof. Hui Zhang | <i>Sep 2019 - May 2023</i>
Hong Kong, China |

SELECTED JOURNAL PUBLICATIONS

1. **Fine-Grained Classification for Depth Estimation from Monocular Microscopy for Robotic Micromanipulation of Motile Cells**
Han Yang, Yafei Jin, Aojun Jiang, Xinrui Wang, Xibu Wang, Xiaoling Yi, Yu Sun*, Zhuoran Zhang*
IEEE Robotics and Automation Letters (RA-L), 2025, *JCR Q1, IF = 5.3*
2. **Ape Optimizer: A P-Power Adaptive Filter-Based Approach for Deep Learning Optimization**
Yafei Jin, Han Yang, Xinrui Wang, Yingche Xu, Zhuoran Zhang*
IEEE Transactions on Neural Networks and Learning Systems (TNNLS), 2025, *JCR Q1, IF = 8.9*
3. **Fully On-Smartphone: Efficient Speed-Up of Sperm Tracking Algorithm for Point-of-Care Semen Analysis**
Yongbin Zheng, Aojun Jiang, Xiliang Wang, Miao Hao, Han Yang, Zidong Ma, Jiachun Zheng, Yafei Jin, Chunfeng Yue, Zongjie Huang, Rongan Zhai, Junhui Zhu, Changhai Ru, Chao Du, Bolun Wang, Yuexin Yu, Zhouran Zhang*
IEEE Transactions on Biomedical Engineering, 2025, *JCR Q2, IF = 4.5*

SELECTED CONFERENCE PUBLICATIONS

1. **Weakly-Supervised Depth Completion during Robotic Micromanipulation from a Monocular Microscopic Image**
Han Yang†, Yafei Jin†, Guanqiao Shan, Yibin Wang, Yongbin Zheng, Jiangfan Yu, Yu Sun*, Zhouran Zhang*
IEEE International Conference on Robotics and Automation (ICRA), 2024, *CCF-B*
2. **Continuous Convolution for Automated Measurement of Sperm Flagella**
Yafei Jin†, Han Yang†, Wenyuan Chen, Xinrui Wang, Yu Sun*, Zhouran Zhang*
IEEE International Conference on Robotics and Automation (ICRA), 2025, *CCF-B*
3. **Robotic Cell Manipulation at the Solid-Liquid Interface for Cryopreservation**
Aojun Jiang, Han Yang, Haocong Song, Wenyuan Chen, Yu Sun*, Zhouran Zhang*
IEEE International Conference on Robotics and Automation (ICRA), 2026, *CCF-B*
4. **Depth Estimation for Motile Cell under Monocular Microscopy Based on Fine-grained Classification**
Han Yang, Yafei Jin, Xinrui Wang, Zhouran Zhang*
IEEE International Conference on Micro/Nano Sensors for AI, Healthcare and Robotics(IEEE-NSENS), **Best Paper Award**, 2024
5. **WTBNeRF: Wind Turbine Blade 3D Reconstruction by Neural Radiance Fields**
Han Yang, Linchuan Tang, Hui Ma, Rongfeng Deng, Hui Zhang*
International conference on the Efficiency and Performance Engineering Network (TEPEN), 2022
6. **HQNet: An Efficient Convolutional Neural Network for Cervical Cancer Classification**
Han Yang, Teoh Teik Toe*
IEEE International Conference on Biomedical Imaging, Signal Processing (ICBSP), 2022

SELECTED PATENTS

1. **A method for estimating the depth information of motile cells and a robotic micromanipulation device**
Chunfeng Yue, Han Yang, Zongjie Huang, Zhuoran Zhang
Chinese Invention Patent [CN202411923420.7], 2025

ACADEMIC RESEARCH EXPERIENCES

- **Dalian University of Technology [🌐]** Jan 2025 - present
Dalian, China
Research Assistant
 - Supervisor: Prof. Zhuoran Zhang & Prof. Yu Sun
 - Institution of Robotics and Intelligent System
 - Micromanipulation System Design, 3D Visual Perception, Reinforcement Learning
- **The Chinese University of Hong Kong, Shenzhen [🌐]** Sep 2023 - present
Shenzhen, China
Ph.D. Student & Research Assistant
 - Supervisor: Prof. Zhuoran Zhang & Prof. Yu Sun
 - Micromanipulation System Design, 3D Visual Perception, Reinforcement Learning
- **Beijing Normal-Hong Kong Baptist University (BNBU) [🌐]** Sep 2021 - May 2023
Zhuhai, China
Research Assistant
 - Supervisor: Prof. Hui Zhang
 - Key Laboratory for Artificial Intelligence and Multi-Modal Data Processing of Department of Education of Guangdong Province
 - 3D Reconstruction, Camera Calibration, Medical Image Processing
- **Nanyang Technological University [🌐]** July 2022 - Sep 2022
Remote
Research Assistant
 - Supervisor: Dr. Teoh Teik Toe
 - Medical Image Processing

INDUSTRY EXPERIENCES

- **FunPlus Inc. [🌐]** Jun 2021 - Sep 2021
Beijing, China
Data Analyst Intern
 - Data Analysis, Cloud Database, NLP

ACADEMIC SERVICES

- **Peer Review:** T-ASE, RA-L, T-BME, MIA, EAAI, ICRA, IROS, ICASSP
- **Teaching Assistant:** Calculus I, Calculus II, Introduction to Computer Science: Programming Methodology
- **Membership:** Student member of IEEE & IEEE Robotics and Automation Society (RAS)