

YUHUI CHEN

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RESEARCH INTERESTS

Reinforcement learning, Robot learning, Embodied AI

EDUCATION

- Sep 2022–Jun 2027 **Chinese Academic of Science, Institution of Automation** Beijing, China
Ph.D degree
Advised by Prof. Dongbin Zhao and co-advised by Prof. Haoran Li, GPA: 3.5/4.0
- Jun 2020–Jun 2022 **Australian National University** Canberra, Australia
Bachelor of Engineering with Second Class Honours Division A
Major in Electronics and Communication, GPA: 6.0/7.0
- Sep 2018–Jun 2020 **Beijing Institute of Technology** Beijing, China
Bachelor of Engineering with Honor Graduate
Xu Teli Class, Major in Information Engineering, GPA: 3.3/4.0

PUBLICATIONS AND PREPRINTS

Survey

- Jan 2026 **Survey of Vision-Language-Action Models for Embodied Manipulation**
Haoran Li, **Yuhui Chen**, Wenbo Cui, Weiheng Liu, Kai Liu, Mingcai Zhou, Zhengtao Zhang, Dongbin Zhao
IEEE/CAA Journal of Automatica Sinica

Reinforcement Learning & Continual Learning

- Jun 2025 **ConRFT: A Reinforced Fine-tuning Method for VLA Models via Consistency Policy**
Yuhui Chen, Shuai Tian, Shugao Liu, Yingting Zhou, Haoran Li, and Dongbin Zhao
Robotics: Science and Systems (RSS) 2025, Oral Speech
- Feb 2026 **Towards Long-Lived Robots: Continual Learning VLA Models via Reinforcement Fine-Tuning**
Yuan Liu, Haoran Li, Shuai Tian, Yuxing Qin, **Yuhui Chen**, Yupeng Zheng, Yongzheng Huang, and Dongbin Zhao
Under Review
- Sep 2024 **Generalizing Consistency Policy to Visual RL with Prioritized Proximal Experience Regularization**
Haoran Li, Zhennan Jiang, **Yuhui Chen**, and Dongbin Zhao
Neural Information Processing Systems (NeurIPS) 2024
- May 2024 **Boosting continuous control with consistency policy**
Yuhui Chen, Haoran Li, and Dongbin Zhao
Autonomous Agents and Multi-Agent Systems (AAMAS) 2024, Oral Speech

VLA & Foundation Models

- May 2026 **QDepth-VLA: Quantized Depth Prediction as Auxiliary Supervision for Vision-Language-Action Models**
Yixuan Li, **Yuhui Chen**, Mingcai Zhou, Haoran Li
Autonomous Agents and Multi-Agent Systems (AAMAS) 2026
- Jul 2026 **CLAR: Learning 3D Representations for Robotic Manipulation by Fusing Masked Reconstruction with Multi-Level Contrastive Alignment**
Wenbo Cui, Chengyang Zhao, **Yuhui Chen**, Haoran Li, Zhizheng Zhang, Dongbin Zhao, and He Wang
IEEE International Conference on Robotics and Automation (ICRA) 2026

Generative World Models as Simulators

- Feb 2026 **WoVR: World Models as Reliable Simulators for Post-Training VLA Policies with RL**
Zhennan Jiang, Shangqing Zhou, Yutong Jiang, Zefeng Huang, Mingjie Wei, **Yuhui Chen**, Tianxing Zhou, Zhen Guo, Hao Lin, Haoran Li, Chao Yu, and Dongbin Zhao
Under Review
- Feb 2026 **Dual-Granularity Contrastive Reward via Generated Episodic Guidance for Efficient Embodied RL**
Xin Liu, Yixuan Li, **Yuhui Chen**, Haoran Li, and Dongbin Zhao
Under Review
- Feb 2026 **TeVIR: Text-to-Video Reward with Diffusion Models for Efficient Reinforcement Learning**
Yuhui Chen, Haoran Li, Zhennan Jiang, Haowei Wen, and Dongbin Zhao
IEEE Transactions on Systems, Man, and Cybernetics: Systems

RESEARCH AND WORK EXPERIENCE

- Oct 2021 – Mar 2022 **Dajiang Innovations.** Shenzhen, China
MCU embedded engineer in R&D Center, Flight Dept.
Developed drivers for chips using I2C, SPI, and other protocols, including charging chips, Hall joysticks, and IMUs.
Developed an RTOS-based embedded system to meet business requirements.
Design an arbiter that mimics RTOS priority rules to streamline warning prompts for clear logic.
- Nov 2020 – Jul 2021 **Institute of Automation, Chinese Academy of Sciences** Beijing, China
Research Intern
Developed ROS system on Xavier for upper-level decision making.
Developed a RTOS-based system for multi-task handling on a robot.
Implemented Yolov3 for armor detection and tracking on Xavier.
Implemented a Kalman filter for real-time multi-sensor data fusion to achieve accurate robot positioning.

Awards

- May 2024 **AAMAS-24 Scholarship**
ACM Special Interest Group on Artificial Intelligence (ACM SIGAI)
- Jun 2022 **Xuteli Graduates Award (Top 5%)**
Beijing Institute of Technology
- Mar 2022 **1st prize in RoboMaster University AI Challenge (RMUA) China and 2nd prize in RMUA Global**
DJI RoboMaster Organizing Committee and the IEEE International Conference on Robotics and Automation (ICRA)
- Jun 2019 **Xuteli Scholarship (Top 3%)**
Beijing Institute of Technology

SKILLS AND INTERESTS

- Programming Python / Pytorch, Jax, Numpy
C/C++, ROS, RViz, Moveit
SOLIDWORKS for 3D printing
- Language Chinese Mandarin (Native), English (Fluent, 96 of TOEFL in Jun 2021), Chinese Cantonese (Basic)
- Hobbies Aerial Photography, FPV drone, Basketball, American Football, Skateboard, Ski
Travel, Mountain Climbing (Summitted 6178 Meters' Yuzhu Peak/Sob Gangri on 12th Jul 2019)

Coursework

- Sep 2022–Jun 2023 **University of Chinese Academic of Science** Beijing, China
Pattern Recognition (90), Robotics (88), Reinforcement Learning (84), Deep Learning (90.4), Computational Game Theory and Applications (89), Computational Intelligence (90), Stochastic Processes (81), Multi-Agent Systems (88), Optimization Algorithms Theory and Applications (88)
- Jun 2020–Jun 2022 **Australian National University** Canberra, Australia
Power Systems and Power Electronics (80), Computer Architecture and Simulation (83), Digital Systems and Microprocessors (77), Digital Communications (81), Wireless Communications (78)
- Sep 2018–Jun 2020 **Beijing Institute of Technology** Beijing, China
Advanced Algebra (78), C Programming Language (92), Electronic Technology Practice (85), Complex Function and Integral Transform (96), Probability and Mathematical Statistic (83), Analog Electronics (88), Fundamental Principles and Applications fo Control Science (84), Data Structure and Algorithm Design (C++Description) (91), Digital Circuit (88), Fundamental Theories and Applications of Communication and Network (86), Signal Processing Theory and Technology (84)