Hongjie Fang

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Education

Shanghai Jiao Tong University *2022/09 – present*
Ph.D. Student, Wu Wenjun Honorable Class, Computer Science and Engineering Shanghai, China

Shanghai Jiao Tong University *2018/09 – 2022/06*
Bachelor of Engineering, major in Computer Science and Engineering, Shanghai, China
Bachelor of Economics, minor in Finance
- GPA 4.03 / 4.3, Ranking: 2 / 149.

Awards

Best Paper Award, ICRA 2024 *2024*
Best Paper Award, IROS 2023 Manipulation and Grasping Workshop *2023*
Shanghai Outstanding Graduates *2022*
Shanghai Scholarship *2020*
National Olympics in Informatics (**NOI**) *Bronze Medal* *2017*
National Olympics in Informatics in Provinces (**NOIP**) *First Prize* *2015 & 2016*

Publications

1. AirExo-2: Scaling up Generalizable Robotic Imitation Learning with Low-Cost Exoskeletons
Hongjie Fang*, Chenxi Wang*, Yiming Wang*, Jingjing Chen*, Shangning Xia, Jun Lv, Zihao He, Xiyan Yi, Yunhan Guo, Xinyu Zhan, Lixin Yang, Weiming Wang, Cewu Lu, Hao-Shu Fang
*Conference on Robot Learning (**CoRL**), 2025, **(Oral Presentation)**.*

2. AirExo: Low-Cost Exoskeletons for Learning Whole-Arm Manipulation in the Wild
Hongjie Fang*, Hao-Shu Fang*, Yiming Wang*, Jieji Ren, Jingjing Chen, Ruo Zhang, Weiming Wang, Cewu Lu
*IEEE International Conference on Robotics and Automation (**ICRA**), 2024.*

3. TransCG: A Large-Scale Real-World Dataset for Transparent Object Depth Completion and A Grasping Baseline
Hongjie Fang, Hao-Shu Fang, Sheng Xu, Cewu Lu
*IEEE Robotics and Automation Letters (**RA-L**), 2022; Presented at **ICRA** 2023.*

4. FoAR: Force-Aware Reactive Policy for Contact-Rich Robotic Manipulation
Zihao He*, **Hongjie Fang***, Jingjing Chen, Hao-Shu Fang, Cewu Lu
*IEEE Robotics and Automation Letters (**RA-L**), 2025; Presented at **IROS** 2025.*

5. RH20T: A Comprehensive Robotic Dataset for Learning Diverse Skills in One-Shot
Hao-Shu Fang, **Hongjie Fang**, Zhenyu Tang, Jirong Liu, Chenxi Wang, Junbo Wang, Haoyi Zhu, Cewu Lu
*IEEE International Conference on Robotics and Automation (**ICRA**), 2024*

6. RISE: 3D Perception Makes Real-World Robot Imitation Simple and Effective
Chenxi Wang, **Hongjie Fang**, Hao-Shu Fang, Cewu Lu
*IEEE/RSJ International Conference on Intelligent Robots and Systems (**IROS**), 2024.*

7. Towards Effective Utilization of Mixed-Quality Demonstrations in Robotic Manipulation via Segment-Level Selection and Optimization
Jingjing Chen, **Hongjie Fang**, Hao-Shu Fang, Cewu Lu
*IEEE International Conference on Robotics and Automation (**ICRA**), 2025.*

8. CAGE: Causal Attention Enables Data-Efficient Generalizable Robotic Manipulation
Shangning Xia, **Hongjie Fang**, Hao-Shu Fang, Cewu Lu
*IEEE International Conference on Robotics and Automation (**ICRA**), 2025.*

9. AnyGrasp: Robust and Efficient Grasp Perception in Spatial and Temporal Domains
Hao-Shu Fang, Chenxi Wang, **Hongjie Fang**, Minghao Gou, Jirong Liu, Hengxu Yan, Wenhai Liu, Yichen Xie, Cewu Lu
*IEEE Transaction on Robotics (**T-RO**), 2023; Presented at ICRA 2024, **(Best Paper Award on IROS 2023 Workshop)**.*

10. Motion Before Action: Diffusing Object Motion as Manipulation Condition
    Yue Su*, Xinyu Zhan*, **Hongjie Fang**, Yong-Lu Li, Cewu Lu, Lixin Yang
    *IEEE Robotics and Automation Letters (**RA-L**), 2025.*

11. Dense Policy: Bidirectional Autoregressive Learning of Actions
    Yue Su*, Xinyu Zhan*, **Hongjie Fang**, Han Xue, Hao-Shu Fang, Yong-Lu Li, Cewu Lu, Lixin Yang
    *IEEE/CVF International Conference on Computer Vision (**ICCV**), 2025.*

12. Knowledge-Driven Imitation Learning: Enabling Generalization Across Diverse Conditions
    Zhuochen Miao*, Jun Lv*, **Hongjie Fang**, Yang Jin, Cewu Lu
    *IEEE/RSJ International Conference on Intelligent Robots and Systems (**IROS**), 2025.*

13. Open X-Embodiment: Robotic Learning Datasets and RT-X Models
    Open X-Embodiment Collaboration, 147 authors
    *IEEE International Conference on Robotics and Automation (**ICRA**), 2024, **(Best Paper Award)**.*

14. Flexible Handover with Real-Time Robust Dynamic Grasp Trajectory Generation
    Gu Zhang, Hao-Shu Fang, **Hongjie Fang**, Cewu Lu
    *IEEE/RSJ International Conference on Intelligent Robots and Systems (**IROS**), 2023.*

15. SIME: Enhancing Policy Self-Improvement with Modal-Level Exploration
    Yang Jin*, Jun Lv*, Wenye Yu, **Hongjie Fang**, Yong-Lu Li, Cewu Lu
    *IEEE/RSJ International Conference on Intelligent Robots and Systems (**IROS**), 2025.*

16. Graspness Discovery in Clutters for Fast and Accurate Grasp Detection
    Chenxi Wang*, Hao-Shu Fang*, Minghao Gou, **Hongjie Fang**, Jin Gao, Cewu Lu
    *IEEE/CVF International Conference on Computer Vision (**ICCV**), 2021.*

17. Target-Referenced Reactive Grasping for Dynamic Objects
    Jirong Liu, Ruo Zhang, Hao-Shu Fang, Minghao Gou, **Hongjie Fang**, Chenxi Wang, Sheng Xu, Hengxu Yan, Cewu Lu
    *IEEE/CVF Conference on Computer Vision and Pattern Recognition (**CVPR**), 2023.*

Preprints

1. History-Aware Visuomotor Policy Learning via Point Tracking
   Jingjing Chen*, **Hongjie Fang***, Chenxi Wang, Shiquan Wang, Cewu Lu
   arXiv, 2025.

2. Learning Dexterous Manipulation with Quantized Hand State
   Ying Feng*, **Hongjie Fang***, Yinong He*, Jingjing Chen, Chenxi Wang, Zihao He, Ruonan Liu, Cewu Lu
   arXiv, 2025.

3. AnyDexGrasp: Learning General Dexterous Grasping for Any Hands with Human-level Learning Efficiency
   Hao-Shu Fang, Hengxu Yan, Zhenyu Tang, **Hongjie Fang**, Chenxi Wang, Cewu Lu
   arXiv, 2025.

Academic Services

Reviewer for journal *RA-L*, *T-CYB*, *T-MECH*.
Reviewer for conferences including *ICRA* (2023 - 2025), *IROS* (2023 - 2025), *CoRL* (2025), *NeurIPS* (2025), *ICLR* (2025), *etc.*

Teaching

Teaching Assistant, *Algorithm and Complexity* — *Spring, 2022*
Teaching Assistant, *C++ Programming Language (Honor)* — *Fall, 2020*
Teaching Assistant, *Data Structure (Honor)* — *Spring, 2019*
Teaching Assistant, *Linear Algebra (Honor)* — *Fall 2021 & Fall, 2022*
Teaching Assistant, *Mathematical Analysis (Honor)* — *Fall, 2020 & Fall, 2021*

Invited Talks

- 03/2024, **Echo AI @ USyd**, *Towards Efficient Robot Imitation Learning from Human Demonstrations.*

- 11/2024, **Zhixingxing**, *Towards Efficient Robot Imitation Learning from Human Demonstrations.*
- 02/2025, **THU Yang Gao Group**, *Towards Generalizable Imitation Learning from Human Demonstrations.*
- 08/2025, **3D CVer**, *Towards Generalizable Imitation Learning from Human Demonstrations.*
- 08/2025, **Sharpa**, *Towards Generalizable Imitation via Scalable Data and Robust Policy.*