

Wenqiang Xu

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EDUCATION

Shanghai Jiao Tong University

PhD in Computer Science

Shanghai, China

Sep. 2019 – Sep 2023

Shanghai Jiao Tong University

Master in Computer Science

Shanghai, China

Sep. 2017 – June 2019

University of Science and Technology of China (School of the Gifted Young)

Bachelor in Organic Chemistry

Anhui, China

Sep, 2011 – June 2015

EXPERIENCE

National University of Singapore

Visit in NUS

Mar. 2023 – Sep. 2023

Advisor: Prof. Lin Shao

- Robot-assisted dressing.

ZenusTech

Intern in Physics Simulation

Mar. 2022 – Mar. 2023

Advisor: Xinxin Zhang, Xinlei Wang

- Participating *Zeno* Development, a node-based simulation system including cloth simulation, fluid simulation, rigid simulation and biological simulation.
- My intern is mainly on rigid simulation, constraints, and high performance computing.

PROJECTS

RobotFlow Framework | Role: Founder, Leader, Developer

- RFUniverse: A multiphysics simulation platform for embodied AI.
- RFVision: A multi-modal perception library.
- RFPlanner: A ROS-free planning Library.

SELECTED PUBLICATIONS

First author, co-first author and some recent works. All works are initiated, designed and instructed by me.
(* = Equal Contribution)

- **Precise Robotic Needle-Threading with Tactile Perception and Reinforcement Learning**, *CoRL '23*
Zhenjun Yu*, **Wenqiang Xu***, Siqiong Yao, Jieji Ren, Tutian Tang, Yutong Li, Guoying Gu, Cewu Lu
Tag: *Tactile, Deformable object, Manipulation*
- **ClothPose: A Real-world Benchmark for Visual Analysis of Garment Pose via An Indirect Recording Solution**, *ICCV '23* **Oral**
Wenqiang Xu*, Wenxin Du*, Han Xue, Yutong Li, Ruolin Ye, Yanfeng Wang, Cewu Lu
Tag: *Deformable object, Manipulation*
- **RFUniverse: A Multiphysics Simulation Platform for Embodied AI**, *RSS '23*
Haoyuan Fu*, **Wenqiang Xu***, Ruolin Ye*, Han Xue, Zhenjun Yu, Tutian Tang, Yutong Li, Wenxin Du, Jieyi Zhang, Cewu Lu
Tag: *Multiphysics simulation*
- **Visual-Tactile Sensing for In-Hand Object Reconstruction**, *CVPR '23*
Wenqiang Xu*, Zhenjun Yu*, Han Xue, Ruolin Ye, Siqiong Yao, Cewu Lu
Tag: *Tactile, Deformable object*

- **RCareWorld: A Human-centric Simulation World for Caregiving Robots**, *IROS '22* **Best RoboCup Award Winner, Best Paper Finalist**
Ruolin Ye*, **Wenqiang Xu***, Haoyuan Fu, Rajat Kumar Jenamani, Vy Nguyen, Cewu Lu, Katherine Dimitropoulou, Tapomayukh Bhattacharjee
Tag: *Musculoskeletal simulation, Human-robot interaction*
- **H2O: A Benchmark for Visual Human-human Object Handover Analysis**, *ICCV '21*
Ruolin Ye*, **Wenqiang Xu***, Zhendong Xue, Tutian Tang, Yanfeng Wang, Cewu Lu
Tag: *Human-robot Interaction*
- **Explicit shape encoding for real-time instance segmentation**, *ICCV '19*
Wenqiang Xu*, Haiyang Wang*, Fubo Qi, Cewu Lu
Tag: *Object detection*
- **Srda: Generating instance segmentation annotation via scanning, reasoning and domain adaptation**, *ECCV '18*
Wenqiang Xu*, Yonglu Li*, Cewu Lu
Tag: *Generative model*
- **UniFolding: Towards Sample-efficient, Scalable, and Generalizable Robotic Garment Folding**, *CoRL '23*
Han Xue*, Yutong Li*, **Wenqiang Xu**, Dongzhe Zheng, Cewu Lu
Tag: *Deformable object, Manipulation*
- **RoboTube: Learning Household Manipulation from Human Videos with Simulated Twin Environments**, *CoRL '22* **Oral**
Haoyu Xiong*, Haoyuan Fu*, Jieyi Zhang, Chen Bao, Qiang Zhang, Yongxi Huang, **Wenqiang Xu**, Animesh Garg, Cewu Lu
Tag: *Imitation learning*
- **GarmentTracking: Category-level Garment Pose Tracking**, *CVPR '23*
Han Xue, **Wenqiang Xu**, Jieyi Zhang, Titian Tang, Yutong Li, Wenxin Du, Ruolin Ye, Cewu Lu
Tag: *Deformable object*
- **AKB-48: A Real-World Articulated Object Knowledge Base**, *CVPR '22*
Liu, Liu, **Wenqiang Xu**, Haoyuan Fu, Sucheng Qian, Yang Han, Cewu Lu
Tag: *Articulated object*

AWARDS

Yunfan Award
A Class

WAIC
2021