

## EDUCATION

**KTH Royal Institute of Technology, Stockholm, Sweden**

Sept. 2025 – Sept. 2027(expected)

Postdoctoral Researcher

Supervisor: Prof. Danica Kragic

Division of Robotics, Perception and Learning

**Southern University of Science and Technology, Shenzhen, China**

Sept. 2021 – Jun. 2025

Doctor of Philosophy (Robotics)

Supervisor: Prof. Hong Zhang

GPA: 3.79

**National University of Singapore, Singapore**

May 2024 – May 2025(expected)

Visiting Ph.D. Student

Supervisor: Prof. David Hsu

AdaComp Lab (School of Computing)

**Georgia Institute of Technology, Atlanta, USA**

Aug. 2018 – May. 2020

Master of Science (Electrical and Computer Engineering)

Supervisor: Prof. Patricio Vela

GPA: 3.90

**Nanjing Tech University, Nanjing, China**

Aug. 2014 – Jun. 2018

Bachelor of Engineering (Automation)

GPA: 3.80, Ranking: 1/123

## RESEARCH INTERESTS

My research interests involve robotic **manipulation and grasping**, **mobile manipulation**, **human-robot interaction**, and **semantic reasoning** for robots. The ultimate goal is to develop autonomous agents that can perceive, understand, and interact with the physical world with the same level of intelligence as humans.

## PUBLICATIONS

- ✧ **Chao Tang**, Anxing Xiao, Yuhong Deng, Tianrun Hu, Wenlong Dong, Hanbo Zhang, David Hsu, and Hong Zhang, "MimicFunc: Imitating Tool Manipulation from a single Human Video via Functional Correspondence", [accepted to CoRL 2025](#).
  - ✧ **Chao Tang**, Anxing Xiao, Yuhong Deng, Tianrun Hu, Wenlong Dong, Hanbo Zhang, David Hsu, and Hong Zhang, "FUNCTO: Function-Centric One-Shot Imitation Learning for Tool Manipulation", [under review](#).
  - ✧ **Chao Tang**, Dehao Huang, Wenlong Dong, Ruinian Xu, and Hong Zhang, "FoundationGrasp: Generalizable Task-Oriented Grasping with Foundation Models", [accepted to IEEE T-ASE](#).
  - ✧ **Chao Tang**, Dehao Huang, Wenqi Ge, Weiyu Liu and Hong Zhang, "GraspGPT: Leveraging Semantic Knowledge from a Large Language Model for Task-Oriented Grasping", [accepted to IEEE Robotics and Automation Letters](#).
  - ✧ **Chao Tang**, Dehao Huang, Lingxiao Meng, Weiyu Liu and Hong Zhang, "Task-Oriented Grasp Prediction with Visual-Language Inputs", [accepted to IEEE IROS/RSJ 2023](#).
  - ✧ **Chao Tang**, Jingwen Yu, Weinan Chen, Bingyi Xia and Hong Zhang, "Relationship Oriented Semantic Scene Understanding for Daily Manipulation Tasks", [accepted to IEEE IROS/RSJ 2022](#).
  - ✧ Yunzhi Lin\*, **Chao Tang**\*, Fu-Jen Chu and Patricio A. Vela, "Using Synthetic Data and Deep Networks to Recognize Primitive Shapes for Object Grasping", [accepted to IEEE ICRA 2020](#). (\*-equal contribution)
  - ✧ **Chao Tang**, Yifei Fan and Anthony J. Yezzi, "An Adaptive View of Adversarial Robustness from Test-time Smoothing Defense", [accepted to NeurIPS 2019 workshop](#).
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- ✧ Yuhong Deng, **Chao Tang**, Cunjun Yu, Linfeng Li, and David Hsu, "CLASP: General-Purpose Clothes Manipulation with Semantic Keypoints", [under review](#).
  - ✧ Shan An, Ziyu Meng, **Chao Tang**, Yuning Zhou, Tengyu Liu, Fangqiang Ding, Shufang Zhang, Yao Mu, Ran Song, Wei Zhang, Zeng-Guang Hou,

and Hong Zhang, "Dexterous Manipulation through Imitation Learning: A Survey", [under review](#).

- ✧ Zijun Lin, **Chao Tang**, Hanjing Ye, and Hong Zhang, "FlowPlan: Zero-Shot Task Planning with LLM Flow Engineering for Robotic Instruction Following", [accepted to IEEE/RSJ IROS 2025](#).
- ✧ Dehao Huang, Wenlong Dong, **Chao Tang**, and Hong Zhang, "HGDdiffuser: Efficient Task-Oriented Grasp Generation via Human-Guided Grasp Diffusion Models", [accepted to IEEE/RSJ IROS 2025](#).
- ✧ Wenlong Dong, Dehao Huang, Jiangshan Liu, **Chao Tang**, and Hong Zhang, "RTAGrasp: Learning Task-Oriented Grasping from Human Videos via Retrieval, Transfer, and Alignment", [accepted to IEEE ICRA 2025](#).
- ✧ Wenqi Ge, **Chao Tang**, and Hong Zhang, "Commonsense Scene Graph-based Target Localization for Object Search", (EDM workshop @ IROS 2024 Best Paper Finalist), [accepted to IROS 2024](#).
- ✧ Dehao Huang, **Chao Tang**, and Hong Zhang, "Efficient Object Rearrangement via Multi-view Fusion", [accepted to IEEE ICRA 2024](#).
- ✧ Weinan Chen, Hanjing Ye, Changfei Fu, **Chao Tang**, Lei Zhu, and Hong Zhang, "Keyframe Selection with Information Occupancy Grid Model for Long-Term Data Association", [accepted to IEEE/RSJ IROS 2022](#).
- ✧ Yunzhi Lin, **Chao Tang**, Fu-Jen Chu, Ruinian Xu, and Patricio A. Vela, "Primitive Shape Recognition for Object Grasping", [under review](#).
- ✧ Fu-Jen Chu, Ruinian Xu, **Chao Tang** and Patricio A. Vela, "Recognizing object affordance to support scene reasoning for manipulation tasks", [under review](#).
- ✧ Ruinian Xu, Fu-Jen Chu, **Chao Tang**, Wei Yu Liu and Patricio A. Vela, "An Affordance Keypoint Detection Network for Robot Manipulation", [accepted to IEEE Robotics and Automation Letters \(RA-L\) & ICRA 2021](#).
- ✧ Cuimei Bo, Wei Gao, **Chao Tang**, Jun Li and Xiaohua Lu, "Dynamic Control Design and Simulation of Biogas Pressurized Water Scrubbing Process", [accepted to 10th IFAC Symposium on Advanced Control of Chemical Process ADCHEM 2018](#).

## INTERNS

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|--|-----------------------|
| ✧ Southern University of Science and Technology, Shenzhen, China   | Mar. 2021 – Aug. 2021 |
| Research assistant at Shenzhen Key Laboratory of Robotics and Computer Vision supervised by Prof. Hong Zhang |                       |
| ✧ Georgia Institute of Technology, Atlanta, USA  | May 2020 – Jan. 2021  |
| Graduate research assistant at Intelligent Vision and Automation Lab supervised by Prof. Patricio Vela       |                       |
| ✧ Fibrant Co. Ltd, Nanjing, China  | Jun. 2017 – Aug. 2017 |
| Process control engineer with Mr. Li Liu   |                       |

## HONORS AND AWARDS

- ✧ Outstanding Graduate Student (2023), SUSTech
- ✧ President Scholarship (2015, 2018), Nanjing Tech University
- ✧ 2nd Prize, NXP Intelligent Vehicle Contest (2017), National Level
- ✧ 1st Prize, NXP Intelligent Vehicle Contest (2017), East China Level
- ✧ 3rd Prize, Siemens Intelligent Manufacturing Contest Challenge (2017)
- ✧ Outstanding Graduate Honoree (2018), Nanjing Tech University

## ACTIVITIES & SERVICES

- ✧ Robotics and Autonomous Systems (RAS) Reviewer
- ✧ Pattern Recognition (PR) Reviewer
- ✧ Robotics and Computer-Integrated Manufacturing Reviewer
- ✧ Conference on Robot Learning (CoRL) Reviewer
- ✧ IEEE Transactions on Industrial Informatics (TII) Reviewer
- ✧ IEEE Transactions on Automation Science and Engineering (TASE) Reviewer

- ✧ IEEE Robotics and Automation Letters (RA-L) Reviewer
  - ✧ IEEE ICRA Reviewer
  - ✧ IEEE/RSJ IROS Reviewer
  - ✧ IEEE SII/SICE Reviewer
  - ✧ WRC SARA Reviewer
  - ✧ IEEE ICRA 2021 Organizing Committee & Outstanding Volunteer
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## TEACHING

- ✧ Graduate Teaching Assistant: EE 5058 - Introduction to Information Technology Spring 2024, Spring 2024.
  - ✧ Graduate Teaching Assistant: EE 101 - Electronic and Information Technology for Metaverse, Fall 2024.
  - ✧ Graduate Teaching Assistant: EE 5346 - Autonomous Robot Navigation, Spring 2023
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