

## F a n j u n B u

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I am a Ph.D. student at Cornell Tech, under the supervision of Dr. Wendy Ju. My research focuses on understanding how people interact with emerging technologies. In particular, I am interested in human-robot interaction and the challenges it presents. My approach involves utilizing the Wizard-of-Oz technique for in-the-wild deployments to simulate robots' autonomy and elicit natural interaction behaviors. By leveraging unique interaction data collected through the Wizard-of-Oz technique, I aim to bootstrap robots' social intelligence. Through my research, I aspire to provide valuable guidelines for the design of future technologies that seamlessly integrate into human environments.

## E D U C A T I O N

- 2021–Present **PhD Candidate**, Cornell Tech  
Advised by Professor Wendy Ju,  
New York, NY
- 2017–2021 **Johns Hopkins University**, Baltimore, MD  
Whiting School of Engineering, B.S. in Applied Mathematics and Statistics,  
Computer Science, and Cognitive Science.  
Whiting School of Engineering, M.S. in Computer Science

## P O S I T I O N S

- 2024–2024 **Summer Intern**, Toyota Research Institute,  
Human-Interactive Driving,  
Los Altos
- 2020–2021 **Research Assistant**, Personal Robotics Lab, University of Washington  
Advised by Tapomayukh Bhattacharjee (now an assistant professor at Cornell  
University),  
Online
- 2020–2021 **Research Assistant**, Intuitive Computing Lab, Johns Hopkins University  
Advised by Professor Chien-Ming Huang,  
Baltimore, Maryland
- Summer 2019 **Research Intern**, Learning Algorithms and System Laboratory (LASA), École  
Polytechnique Fédérale de Lausanne  
Laussane, Switzerland

2017–2021 **Research Assistant**, Honey Lab, Johns Hopkins University University  
Advised by Professor Christopher Honey,  
Baltimore, MD

## TEACHING ASSISTANTSHIPS

- Spring 2023 **INFO5755/INFO6755/CS5755/CS6755. Mobile Human Robot Interaction Design** Cornell Tech.  
Develop new labs for students to learn ROS and build mobile robots. (**Outstanding TA Award**)
- Fall 2021 **CS4750/CS5750/ECE4770/MAE4760. Foundations of Robotics.** Cornell University.  
Design assignments for students to learn robot kinematics, planning, and control. (**Outstanding TA Award**)
- Fall 2020 **601.457. Computer Graphics.** Johns Hopkins University.  
Help students with basic computer graphics operations in C++.
- Fall 2019, Spring 2020 **553.430. Introduction to Statistics.** Johns Hopkins University.  
Teach weekly sessions to cover detailed statistical derivations and examples.

## PUBLICATIONS

- Papers Barry Brown, **Fanjun Bu**, Ilan Mandel, Wendy Ju. “Trash in Motion: Emergent interactions with robotic trashcans in a public square”. In: *Proceedings of the CHI Conference on Human Factors in Computing Systems*. 2024, pp. 1–15.
- Fanjun Bu**, Alexandra Bremers, Mark Colly, Wendy Ju. “Field Notes on Deploying Research Robots in Public Spaces”. In: *Extended Abstracts of the CHI Conference on Human Factors in Computing Systems*. 2024, pp. 1–6.
- Fanjun Bu**, Wendy Ju. “SSUP-HRI: Social Signaling in Urban Public Human-Robot Interaction dataset”. In: *SS4HRI: Workshop on Social Signal Modelling, Workshop at HRI2024* (2024), pp. 1–4.
- Fanjun Bu**, Stacey Li, David Goedicke, Mark Colley, Gyanendra Sharma, Wendy Ju. “Portobello: Extending Driving Simulation from the Lab to the Road”. In: *Proceedings of the CHI Conference on Human Factors in Computing Systems*. 2024, pp. 1–13.
- Sharon Yavo-Ayalon, Yuzhen Zhang, Ruixiang Han, Swapna Joshi, **Fanjun Bu**, Cooper Murr, Lunshi Zhou, Wendy Ju. “Behind the Scenes of CXR: Designing a Geo-Synchronized Communal eXtended Reality System”. In: *Designing Interactive Systems Conference*. DIS ’24. IT University of Copenhagen, Denmark: Association for Computing Machinery, 2024, pp. 180–196. DOI:

10.1145/3643834.3660680. URL:  
<https://doi.org/10.1145/3643834.3660680>.

David Goedicke, Alexandra WD Bremers, Sam Lee, **Fanjun Bu**, Hiroshi Yasuda, Wendy Ju. "XR-OOM: MiXed Reality driving simulation with real cars for research and design". In: *Proceedings of the 2022 CHI Conference on Human Factors in Computing Systems*. 2022, pp. 1–13.

Jan Ondras, Abrar Anwar, Tong Wu, **Fanjun Bu**, Malte Jung, Jorge Jose Ortiz, Tapomayukh Bhattacharjee. "Human-robot commensality: Bite timing prediction for robot-assisted feeding in groups". In: *6th Annual Conference on Robot Learning*. 2022.

**Fanjun Bu**, Chien-Ming Huang. "Object permanence through audio-visual representations". In: *IEEE Access* 9 (2021), pp. 131574–131582.

Konstantinos Chatzilygeroudis, Bernardo Fichera, Ilaria Lauzana, **Fanjun Bu**, Kunpeng Yao, Farshad Khadivar, Aude Billard. "Benchmark for bimanual robotic manipulation of semi-deformable objects". In: *IEEE Robotics and Automation Letters* 5.2 (2020), pp. 2443–2450.

Shima Rahimi Moghaddam, **Fanjun Bu**, Christopher J Honey. "Learning Representations from Temporally Smooth Data". In: *arXiv preprint arXiv:2012.06694* (2020).

Demos and Videos **Fanjun Bu**, Ilan Mandel, Wen-Ying Lee, Wendy Ju. "Trash Barrel Robots in the City". In: *Companion of the 2023 ACM/IEEE International Conference on Human-Robot Interaction*. HRI '23. Stockholm, Sweden: Association for Computing Machinery, 2023, pp. 875–877. ISBN: 9781450399708. DOI: [10.1145/3568294.3580206](https://doi.org/10.1145/3568294.3580206). URL: <https://doi.org/10.1145/3568294.3580206>.

Press Sarah Marquart, "Virtual, Mixed Realities Converge in New Driving Simulator", *Cornell Chronicle*, Jun 21, 2024

Abby Hughes, "New Yorkers treat these remote-controlled 'robot' garbage bins like people, say researchers", *CBC Radio*, August 4, 2023

Catalina Gonella, "These 'trash bots' have been helping keep Brooklyn's Albee Square clean", *Gothamist*, August 2, 2023

Roger Clark, "Robots helping keep Downtown Brooklyn clean," *Spectrum News NY1*, August 1, 2023

Patricia Waldron, "(Almost) everyone likes a helpful trash robot," *Cornell Chronicle*, April 19, 2023.

Ayesha Rascoe, "Researchers released robot trash cans in NYC to see how people would react," *National Public Radio (NPR)*, April 16, 2023.

Mike Snider, "Robots in the Big Apple: Robo-trash cans patrolling New York plaza make friends, creep out some," USA TODAY, April 15, 2023.

Staff, "These robotic trash cans were filmed to test human-robotic interactions. Watch what happened," CNN Business, April 12, 2023.

Evan Ackerman, "Humans (Mostly) Love Trash Robots > Simple robots wander NYC asking for trash and recycling, and it's adorable," IEEE Spectrum, Mar 10, 2023