Borui Wang

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Passionate PhD student in Information Science working in Architectural Robotics Lab at Cornell University. Experienced in blending **human-centered design** with emerging technologies to **create interactive installations and experiences**. Previous research and development background from the University of Washington (B.S. in HCDE). Combines creative vision with technical expertise in physical computing and interactive media. Strong **self-learning** and **communication** ability.

Education

Cornell University | PhD in Information Science

2024+ | Information Science

Advised by Professor **Keith Evan Green** in the Architectural Robotics Lab, Professor **Malte F Jung**, and Professor **Malte Ziewitz.**

University of Washington | Bachelor of Science

2020–2024 | Human-Centered Design & Engineering

GPA:3.96

Dean's List: Autumn 2020–Spring 2021, Autumn 2022–Spring 2024

Publications

Borui Wang and Keith Evan Green. 2026. Windborne: Fostering Nature Connection and Playfulness through Multimodal Interaction in Healthcare Settings. In Proceedings of the 28th International Conference On Multimodal Interaction (ICMI '26). Association for Computing Machinery, New York, NY, USA, 1462–1464. https://doi.org/10.1145/3776574.3832531

Nanyi Jiang, **Borui Wang**, and Xiaozhen Liu. 2026. Robot Housekeeper Cart: Empowering Housekeeping Work through Etiquette-Based Interactions in Hotels. In Companion Proceedings of the 21st ACM/IEEE International Conference on Human-Robot Interaction (HRI Companion '26). Association for Computing Machinery, New York, NY, USA, 1249–1252. https://doi.org/10.1145/3776734.3794607

Yarmand, M., Chen, C., Sherer, M. V., Shah, Y. N., Liu, P., **Wang, B.**, Hernandez, L., Murphy, J. D., & Weibel, N. (2024). Enhancing Accuracy, Time Spent, and Ubiquity in Critical Healthcare Delineation via Cross-Device Contouring. *Proceedings of the 2024 ACM Designing Interactive Systems Conference (DIS '24)*, 905–919. https://doi.org/10.1145/3643834.3660718

Cheng, K., Yarmand, M., Sherer, M., Chen, C., **Wang, B.**, Weibel, N., Murphy, J. Design-thinking Workshops and Survey to Assess Approaches for Contouring Feedback Exchange in Radiation Oncology. The 2023 Radiation Oncology Summit (ACRO), Lake Buena Vista, FL

Yarmand, M., **Wang, B.**, Chen, C., Sherer, M., Hernandez, L., Murphy, J., & Weibel, N. (2023). Design and development of a training and immediate feedback tool to support Healthcare Apprenticeship. **Extended Abstracts of the 2023 CHI Conference** on Human Factors in Computing Systems. https://doi.org/10.1145/3544549.3585894

Orr, M., Dornisch, A., Duran, E., Yarmand, M., **Wang, B.**, Weibel, N., Gillespie, E., Murphy, J., and Sherer, M. Results From a Multi-Institutional Pilot Study of iContour, an Interactive Online Platform with Real-Time Feedback to Improve Contouring Education for Radiation Oncology Residents. American Society for Therapeutic Radiology and Oncology (ASTRO 2023) https://doi.org/10.1016/j.ijrobp.2023.06.1825

Hu, F. Y., **Wang, B. R.**, & Zhang, H. X. (2021). Design and module simulation of a smart parking system based on QR code and drone monitoring for open-space temporary parking lots. 2021 IEEE International Conference on Consumer Electronics and Computer Engineering (ICCECE). https://doi.org/10.1109/iccece51280.2021.9342550

Wang, B., & Li, M. (2021). A structure to effectively prepare the data for sliding window in deep learning. 2021 IEEE 6th International Conference on Signal and Image Processing (ICSIP). https://doi.org/10.1109/icsip52628.2021.9688916

Experience

Nomu: Hotel Robot System VP of Design | Research and Business Project

Jan. 2024 – Present | Ithaca, NY

Designed and prototyped a modular robotic system (Nomu) that **streamlines hotel housekeeping via human-robot collaboration, user-centered design,** aiming to reduce repetitive labor costs by approximately 10%.

Developed an "**etiquette-based" non-verbal interaction system**, including cap expressions and motion trajectories, to enable polite yielding and "hesitation" behaviors in dynamic social spaces.

Constructed high-fidelity physical prototypes to automate heavy lifting, reducing worker physical strain while enhancing labor wellness and hotel branding values.

Participated in Cornell Business Competition and **presented at HRI 2026** conference

iContour @ UC San Diego | Research

Jun. 2022 – Mar. 2025 | Remote & La Jolla, CA

Redesigned and implemented a new interface for a radiologist training web-app. Contributed to the back-end server written in Python, designed and developed WEB-APIs for it. **Collected and validated data** for several **nation-wide user studies** in collaboration with UCSD School of Medicine.

Collaborated and resulted in several publications.

UW Medicine Find a Location Redesign | Capstone Project

Jan. 2024 – Jun. 2024 | Seattle, WA

Collaborated with a team of four to redesign UW Medicine's location finder system serving 4 hospitals and 300+ clinics.

Implemented human-centered design methodologies through a structured process of **competitive analysis, field studies, user testing, information architecture planning, and iterative prototyping.**

Delivered **three key solutions**: a plain language search system to reduce barriers to care, an improved map search interface for better location context, and customizable location page templates for different facility types.

Teaching Experience

Spring 2026 | INFO 4940 Producing Culture About, With, and Through Tech

Serve as the sole Graduate Teaching Assistant for a 15-student studio style course, managing **all administrative logistics**. **Independently designed and facilitated a comprehensive Arduino technical workshop**, developing the full curriculum and hands-on activities. Provide **one-on-one technical mentorship for individual student projects**. Engineered and deployed specialized hardware solutions for student use.

Fall 2025 | INFO 4240 Designing Tech for Social Impact

As a PhD TA, lead a team of undergraduate TAs in grading, assignment distribution, and resolving grading disputes. Lead **two weekly discussion sections** to review and practice design methods including **speculative design, participatory design, critical design, and persuasive/coercive design.** Guide students through weekly design sketches and four major semester projects requiring comprehensive design reports and reflections. Achieved the **highest attendance rate among 10 sections** by providing detailed, high-quality explanations of theoretical concepts and feedback.

Spring 2025 | INFO 4340 App Design and Prototyping

Head TA of a team of 5 TAs. Manage office hours for other TAs, grade assignments weekly, regularly monitor course discussion forum and course email to answer questions and handle regrade requests. In-class, assist students in **learning web developing frameworks like Vue.js and bootstrap, and basic app design principles.** Hold weekly office hours to help students create high-fidelity interactive prototypes, master event-driven programming, and use Git workflows, command-line basics, and debugging skills to prepare them for a future professional environment.

Fall 2024 | INFO 4320 Introduction to Rapid Prototyping and Physical Computing

Host **weekly office hours** to teach **rapid prototyping** (laser cutting, 3D printing, Arduino, basic mechanical design). **Mentor student team** on semester long projects like sport bot, 2D drawing machine, and accessible physical interface. Grade assignments bi-weekly and prepare hardware kits for hands-on learning.