BO LIU

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EDUCATION

Cornell Tech   2023 - Current
PhD in Computer Science   NYC, NY
Advised by Dr. Rajalakshmi Nandakumar & Dr. Thijs Roumen

University of Washington   2021 – March 2023
Master's in Technology Innovation   Seattle, WA

Clark University   2016 – 2020
Bachelor of Arts in Computer Science, *Dean's List (2020)*   Worcester, MA
Minor in Entrepreneurship

RESEARCH EXPERIENCE

Graduate Research Assistant, Cornell University   August 2023 - present

· Conduct research in human–computer interaction and digital fabrication, focusing on sensing and acoustic analysis.

Research Assistant, Ubiquitous Computing Lab   July 2020 - April 2023
Advisor: Shwetak Patel   *Seattle,WA*

· Designed wearable rings for finger movement.
· Researched and fabricated clothing with embroidered fabric speakers for body movement tracking.
· Researched Intestinal Bowel Disease users' social considerations and preferences on using health apps (self-monitoring apps) with qualitative interview study.

Research Assistant, Make4All Lab   September 2022 - September 2023
Advisor: Jennifer Mankoff   *Seattle,WA*

· Researching the haptic exploration of embroidered tactile graphics, abstracting physical information for optimization.

Research Assistant, Pervasive HCI Group, Tsinghua University   April 2021 - August 2021
Advisor: Chun Yu   *Beijing, China*

· Designed and implemented a novel tool that allows people without video editing skills to conveniently create video tutorials for elderly-friendly smartphone usage.
· Served as project manager intern, conducting user research and profiling the target market to turn a research project into a commercial product.

PUBLICATIONS

[**P7**] **Bo Liu**, Yixuan Gao, Yin Li, Rajalakshmi Nanadakumar, Thijs Roumen. *Assembly Stethoscope: Detecting Assembly Errors through Frequency Sweeping–A Feasibility Study* **IASA 2025**, Workshop of **MobiCom**.

[**P6**] Shuo Feng, **Bo Liu**, Yifan Shan, Roy Zunder, Wei-Che Lin, Tri Dinh, Harald Haraldsson, Ofer Berman, Thijs Roumen. *Y-AR: A Mixed Reality CAD Tool for 3D Wire Bending.* **SCF 2025**.

[**P5**] Yin Li, **Bo Liu**, Rajalakshmi Nanadakumar. *CoPlay: Audio-agnostic Cognitive Scaling for Acoustic Sensing* **ICCCN 2025**.

[**P4**] Margaret Ellen Seehorn*, Claris Winston*, **Bo Liu**, Gene S-H Kim, Emily White, Nupur Gorkar, Kate S Glazko, Aashaka Desai, Jerry Cao, Megan Hofmann, Jennifer Mankoff. *Beyond Beautiful: Embroidering Legible and Expressive Tactile Graphics* **ASSETS 2025**.

[**P3**] Ishan Chatterjee, Jiexin Ding, Anandghan Waghmare, Joseph Breda, Yuquan Deng, **Bo Liu**, Yuntao Wang, Shwetak Patel. *FlowRing: Integrated Microgesture and Surface Interaction Ring for Versatile XR Input* **MobileHCI 2025**.

[**P2**] **Bo Liu**, Wenyu Wang, Yuqing Zhang, Rui Huang, John Raiti. *Lullaland: A Multisensory Virtual Reality Experience to Reduce Stress.* **CHI23** (Late-Breaking Work).

[**P1**] Xiaozhu Hu, Yanwen Huang, **Bo Liu**, Ruolan Wu, Yongquan Hu, Aaron J Quigley, Mingming Fan, Chun Yu, Yuanchun Shi. *SmartRecorder: An IMU-based Video Tutorial Creation by Demonstration System for Smartphone Interaction Tasks.* **IUI23**.

TEACHING ASSISTANT EXPERIENCE

INFO 5920 - Specialization Research Project   *Fall 2025*

CS 5356 - Building Startup Systems   *Spring 2025*

CS 5112 - Algorithms and Data Structures for Applications   *Fall 2024*

TECHIN 513 - Managing Data and Signal Processing   *Spring 2023*

TALKS

[**T1**] **Deep Learning in Art styles Recognition**, Oct, 2019
Clark Fall Fest, Worcester, MA

[**T2**] **SoundShirt: Continuous body tracking using embroidered speakers on clothing**, Nov 2022
University of Washington Annual Research Showcase, Seattle, WA

PROFESSIONAL EXPERIENCE

IT Specialist, Global Innovation Exchange   January 2022 - Dec 2022
· Providing technical support to startups, faculty, and students ensuring proper workstation, printer, and VR/AR materials maintenance.
· Maintaining inventory management/surplus control.
· Implemented and maintained security camera systems.

Software Engineering Intern, Synopsys   August 2020 - May 2021
· Developed software to solve Incremental Boolean Satisfiability (SAT) problem, which reduces chip verification time. Implementing this by including functions missing in the existing industry-leading software.
· Designed and developed dashboards that convert JSON data into easy-to-understand information, allowing customers to get information without having to understand JSON files and conduct analysis.

ADDITIONAL PROJECT

Software Engineer & UX Researcher, Artify   June 2022 - December 2022
Sponsored by T-Mobile
· A graduate project designed a future AR museum visit.
· Investigated current AR applications' limitations and general public interactive museum visiting experience with quantitative methods.
· Designed and developed frontend interfaces and backend servers to connect Hololens(AR devices) with three rounds of usability testing.

AWARD

Siegel PiTech PhD Impact Fellowship 2024

Cornell Fellowship 2023

Gary Marsden Travel Award 2023

University of Washington Graduate Student - Conference Presentation Awards 2022

ClarkCONNECT Award 2020