JIASHENG LI

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EDUCATION

University of Maryland, College Park, MD, USA — Aug 2021 - Present
Ph.D. in Computer Science (Advisor: Dr. Huaishu Peng)
– Research interests: human-AI collaboration, embodied & physical AI, multimodal interaction, HCI

University of Maryland, College Park, MD, USA — Jan 2020 - Aug 2021
M.S. in Telecommunication

Virginia Tech, VA, USA — Aug 2015 - May 2019
B.S. in Electrical Engineering

AWARDS & HONORS

Best Paper Honorable Mention (CHI 2023, 2025) — April 2023, 2025
PDG Scholarship for Best Exemplification of Interdisciplinary Research — April 2025
HCIL Maryland Way Award for Research Excellence — May 2024
Dean's Fellowship, University of Maryland, College Park — 2021, 2022

RESEARCH EXPERIENCE

Toyota Research Institute, Human-Centered AI — Los Altos, CA USA
Research Scientist Intern — *Feb 2026 - Present*

- Designed and built **Future Studio**, a room-scale **multimodal human-AI co-creation** system that reframes strategic foresight—decision-making under deep uncertainty—as a live, embodied experience in which people and generative-AI agents collaborate to author and explore branching future scenarios together.
- Architected a **multi-agent** "Council of Experts"—12 **LLM**-powered agents, each with a distinct persona and character, coordinated by an orchestrator agent—that challenge and broaden users' thinking from complementary perspectives, grounding their reasoning in evidence through a **RAG & LLM** pipeline so generated scenarios stay factual, trustworthy, and steerable rather than hallucinated.
- Developed the **embodied & physical-AI** interaction layer—3D-printed tangible artifacts tracked via camera and toio robots, coupled with **multimodal sensing and feedback** (body-posture detection, bio-signal sensing, and a haptic floor and vest)—under a "generic hardware, semantic software" architecture that maps physical action onto scenario meaning.
- Drove the **research-through-design** process independently: shipped 6 prototypes (3 hardware, 3 software) on a weekly cadence, then a mid-fidelity room-scale integration; led 6 structured pilot studies and a morphological analysis synthesizing 18+ interviews into the design principles guiding the build.
- Filed **2 U.S. provisional patent applications** on the system's interaction designs and AI powered physical artifacts.

Small Artifacts Lab, University of Maryland — College Park, MD USA
Graduate Research Assistant — *Sept 2020 - Present*

- Design and implement **embodied AI agents** that utilize wearable devices to provide real-time feedback and **multimodal interaction** for users in mixed-reality environments, studying how users build mental models of and collaborate with AI systems.
- Develop **accessible, human-centered AI** technologies, such as auditory, haptic, and tangible interfaces that enhance interaction for people with vision impairment across physical and digital environments, validated through controlled user studies.
- Investigate and develop **tangible human-AI co-creation** tools, TangibleGrid and TangibleSite, that let blind users independently author and explore nonvisual content such as web page layouts and spatial arrangements of virtual objects.
- Investigate and develop**embodied and on-body robots**, studying how people build mental models of and physically interact with wearable robotic systems in everyday tasks (**human-robot interaction**).

PUBLICATIONS & INVITED TALKS

Full Papers

2026

[P.1] **Jiasheng Li**, Zining Zhang, Zeyu Yan, Ge Gao, and Huaishu Peng. 2026. TangibleSite: Toward Accessible Webpage Design for Blind Users. *In Proceedings of the 2026 CHI Conference on Human Factors in Computing Systems* (ACM CHI '26). [link]

[P.2] Zining Zhang, **Jiasheng Li**, Myungin Lee, Zeyu Yan, Jin Ryong Kim, and Huaishu Peng. 2026. TherMosaic: Accelerating Perceived Thermal Transitions through Spatiotemporal Thermal Feedback. *In Proceedings of the 39th Annual ACM Symposium on User Interface Software and Technology* (ACM UIST '26).

2025

[P.3] **Jiasheng Li**, Zeyu Yan, Zining Zhang, Yuhang Zhao, and Huaishu Peng. 2025. Comparing Vibrotactile and Skin-Stretch Haptic Feedback for Conveying Spatial Information of Virtual Objects to Blind VR Users. *The 32nd IEEE Conference on Virtual Reality and 3D User Interfaces* (IEEE VR '25). [link]

[P.4] Anup Sathya, **Jiasheng Li**, Zeyu Yan, Adriane Fang, Bill Kules, Jonathan David Martin, Huaishu Peng. 2025. Cybernetic Marionette: Channeling Collective Agency Through a Wearable Robot in a Live Dancer-Robot Duet. *ACM Designing Interactive Systems Conference* (ACM DIS '25).

[P.5] Zeyu Yan, **Jiasheng Li**, Zining Zhang, and Huaishu Peng. 2025. PCB Renewal: Iterative Reuse of PCB Substrates for Sustainable Electronic Prototyping. [Best paper honorable mention] *In Proceedings of the 2025 CHI Conference on Human Factors in Computing Systems* (ACM CHI '25). [link]

[P.6] Victor Antony, Clara Jeon, **Jiasheng Li**, Ge Gao, Huaishu Peng, Anastasia Ostrowski, Chien-Ming Huang. 2025. The Design of On-Body Robots for Older Adults. *In Proceedings of the 2025 ACM/IEEE International Conference on Human-Robot Interaction* (ACM HRI '25).

2024

[P.7] Zeyu Yan, **Jiasheng Li**, Zining Zhang, and Huaishu Peng. 2024. SolderlessPCB: Reusing Electronic Components in PCB Prototyping through Detachable 3D Printed Housings. *In Proceedings of the 2024 CHI Conference on Human Factors in Computing Systems* (ACM CHI '24). [link]

[P.8] Zining Zhang, **Jiasheng Li**, Zeyu Yan, and Huaishu Peng. 2024. JetUnit: Rendering Diverse Force Feedback in Virtual Reality Using Water Jets. *In Proceedings of the 37th Annual ACM Symposium on User Interface Software and Technology* (ACM UIST '24).

2023

[P.9] **Jiasheng Li**, Zeyu Yan, Arush Shah, Jonathan Lazar, and Huaishu Peng. 2023. Toucha11y: Making Inaccessible Public Touchscreens Accessible. [Best paper honorable mention] *In Proceedings of the 2023 CHI Conference on Human Factors in Computing Systems* (ACM CHI '23). [link]

[P.10] Niall L Williams, **Jiasheng Li**, Ming C Lin. 2023. A Framework for Active Haptic Guidance Using Robotic Haptic Proxies. *IEEE International Conference on Robotics and Automation* (IEEE ICRA '23). [link]

2022

[P.11] **Jiasheng Li**, Zeyu Yan, Ebrima Haddy Jarjue, Ashrith Shetty, and Huaishu Peng. 2022. TangibleGrid: Tangible Web Layout Design for Blind Users. *In Proceedings of the 35th Annual ACM Symposium on User Interface Software and Technology* (ACM UIST '22). [link]

[P.12] Anup Sathya, **Jiasheng Li**, Tauhidur Rahman, Ge Gao, and Huaishu Peng. 2022. Calico: Relocatable On-cloth Wearables with Fast, Reliable, and Precise Locomotion. *Proc. ACM Interact. Mob. Wearable Ubiquitous Technol* (ACM IMWUT 2022). [link]

2015

[P.13] Xiaojun Quan, Ming Gao, Ping Cheng, **Jiasheng Li**. 2015. An Experimental Investigation of Pool Boiling Heat Transfer on Smooth/Rib Surfaces Under an Electric Field, *International Journal of Heat and Mass Transfer* [link]

Demos and Posters

[D.1] **Jiasheng Li**, Zeyu Yan, Ebrima Haddy Jarjue, Ashrith Shetty, and Huaishu Peng. 2022. Demonstration of TangibleGrid: a Tangible Web Layout Design Tool for Blind Users. *In Adjunct Proceedings of the 35th Annual ACM Symposium on User Interface Software and Technology* (ACM UIST '22 Adjunct). [link]

[D.2] Zining Zhang, **Jiasheng Li**, Zeyu Yan, and Huaishu Peng. 2024. Demonstration of JetUnit: Rendering Diverse Force Feedback in Virtual Reality Using Water Jets. *In Adjunct Proceedings of the 37th Annual ACM Symposium on User Interface Software and Technology* (ACM UIST '24 Adjunct). [link]

TECHNICAL SKILLS

AI / ML	Large language models (LLMs), generative AI (text & image), agentic / multi-agent systems, prompt design & evaluation, human-in-the-loop systems, retrieval-augmented generation (RAG), embeddings & vector databases
HCI Research	Research through design, mixed-methods user studies, study design & statistical analysis, qualitative / thematic analysis, morphological analysis, rapid prototyping, 3D printing and modeling
Interaction & Hardware	Multimodal & embodied interaction, computer-vision tracking and bio-signal sensing, robotics (wearable and desktop robots), haptics, embedded systems (Arduino), PCB design, VR/AR

PROFESSIONAL SERVICES & COMMUNITY INVOLVEMENT

Organizing Committee	ACM on Interactive, Mobile, Wearable and Ubiquitous Technologies (IMWUT)	2026
Peer Reviewing	CHI Conference on Human Factors in Computing Systems, ACM Symposium on User Interface Software and Technology (UIST), ACM Interaction Design and Children (IDC) Conference, ACM Designing Interactive Systems (DIS)	2023 - Present
Conference Volunteer	CHI Conference on Human Factors in Computing Systems	2023
University of Maryland	Graduate admissions application reviewer	2022

MENTORING EXPERIENCE

Undergraduate Students	Matthew Wong, Rugved Zarkar (University of Maryland)	2023 - present
Graduate Students	Angie Pham (University of Maryland)	2024 - present