

Qiuyu (Luca) Lu

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Experience

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| 2024 – now | Postdoc , EECS & ME, University of California, Berkeley | PI: Lining Yao |
| 2021 – 2024 | Postdoc , HCII, Carnegie Mellon University | PI: Lining Yao |
| 2017 – 2020 | Ph.D. , Human-computer Interaction, Tsinghua University. | Advisor: Haipeng Mi |
| 2018 – 2019 | Visiting Student , Tangible Media Group, Media Lab, MIT | Host Advisor: Hiroshi Ishii |
| 2014 – 2017 | M.A. , Interdisciplinary Program of Science & Design, Tsinghua University | |
| 2010 – 2014 | B.Eng. , Mechanical Engineering, Tsinghua University | |

Publications

🏆 📧 : Award ✉️: Contribute as the Corresponding Author and Advisor

Paper

- Di Wu, Emily Guan, Yunjia Zhang, Hsuanju Lai, **Qiuyu Lu**✉️, Lining Yao✉️. *Waxpaper Actuator: Sequentially and Conditionally Programmable Wax Paper for Morphing Interfaces*. ACM CHI, 2024.
- 📧 **Qiuyu Lu**, Tianyu Yu, Semina Yi, Yuran Ding, Haipeng Mi, Lining Yao. *Sustainflatable: Harvesting, Storing and Utilizing Ambient Energy for Pneumatic Morphing Interfaces*. ACM UIST, 2023. **Best Paper (Honorable Mention), Top 1.5%** of all submissions (7/487).
- **Qiuyu Lu**, Haiqing Xu, Yijie Guo, Joey Yu Wang, Lining Yao. *Fluidic Computation Kit: Towards Electronic-free Shape-changing Interfaces*. ACM CHI, 2023.
- Yuxin Peng, **Qiuyu Lu**✉️. *Fusing Drama Therapy and Cognitive Behavioral Therapy in a Virtual Reality Setting: An Innovative Strategy for Tackling Maladaptive Lifestyle Habits*. ACM Chinese CHI, 2023
- 🏆 Tianyu Yu, Mengjia Niu, Haipeng Mi, **Qiuyu Lu**✉️. *Parametric Modeling and Simulation of Millifluidic Shape-changing Interface*. ACM Chinese CHI, 2023. **Best Paper, Top 5%** of accepted papers.
- **Qiuyu Lu**, Yejun Liu, and Haipeng Mi. *MotionFlow: Time-axis-based Multiple Robots Expressive Motion Programming*. ACM CSSE, 2020.
- **Qiuyu Lu**, Jifei Ou, João Wilbert, André Haben, Haipeng Mi, Hiroshi Ishii. *milliMorph — Fluid-Driven Thin Film Shape-Change Materials for Interaction Design*. ACM UIST, 2019.
- Haipeng Mi, Meng Wang, **Qiuyu Lu**, Yingqing Xu. *Tangible user interface: origins, development, and future trends*. SCIENTIA SINICA Informationis, 48(4), 390-405, 2018.
- **Qiuyu Lu**, Chengpeng Mao, Liyuan Wang, Haipeng Mi. *LIME: Liquid Metal Interfaces for Non-Rigid Interaction*. ACM UIST, 2016.
- **Qiuyu Lu**, Lydia Yang, Aditi Maheshwari, Hengrong Ni, Tianyu Yu, Jianzhe Gu, Advait Wadhvani, Andreea Danielescu, Lining Yao, *Guttation Monitor: Wearable Guttation Sensor for Plant Condition Monitoring and Diagnosis*. arXiv preprint arXiv:2302.04965.

Extended Abstract and Poster

- **Qiuyu Lu**, Andreea Danielescu, Vikram Iyer, Pedro Lopes, Lining Yao. *Ecological HCI: Reflection and Future*. Special Interest Group. ACM CHI, 2024

- **Qiuyu Lu**, Yi Zhang, Jingtian Fu, Naixuan Du, Yingqing Xu. *Color Singer: Composing Music via the Construction of LEGO Blocks with Various Colors*. Video Showcase. ACM CHI, 2024.
- **Qiuyu Lu**, Lydia Yang, Aditi Maheshwari, Hengrong Ni, Tianyu Yu, Jianzhe Gu, Advait Wadhvani, Haiqing Xu, Andreea Danieleescu, Lining Yao. *Guttation Sensor: Wearable Microfluidic Chip for Plant Condition Monitoring and Diagnosis*. Late-Breaking Work. ACM CHI, 2024.
- **Qiuyu Lu**, Jifei Ou, Lining Yao, Hiroshi Ishii. *milleCrepe: Extending Capabilities of Fluid-driven Interfaces with Multilayer Structures and Diverse Actuation Media*. Late-Breaking Work. ACM CHI, 2024.
- Emily Guan, Di Wu, **Qiuyu Lu**[✉], Lining Yao[✉]. *Design and Simulation Tool for Sequentially and Conditionally Programmable Waxpaper Morphing Interfaces*. Interactivity. ACM CHI, 2024.
- **Qiuyu Lu**, Semina Yi, Tianyu Yu, Yuran Ding, Haipeng Mi, Lining Yao. *Demonstrating Sustainflatable: Harvesting, Storing and Utilizing Ambient Energy for Pneumatic Morphing Interfaces*. Demo. ACM UIST, 2023.
- Di Wu*, **Qiuyu Lu***, Hsuanju Lai, Yunjia Zhang, Lining Yao. *Demonstrating Waxpaper Plus: Sequentially and Conditionally Programmable Morphing Wax Fabrics*. Interactivity. ACM CHI, 2023. *equally contribute.
- **Qiuyu Lu**, Danqing Shi, Yingqing Xu, and Haipeng Mi. *MetaLife: Interactive Installation Based on Liquid Metal Deformable Interfaces*. Interactivity. ACM CHI, 2020.
- 🏆 **Qiuyu Lu**, Qiuheqi Zhong, Chengpeng Mao, Yejun Liu, Sirui Tan, Haipeng Mi. *ZOOO: A Multi-animatronics Stage to Enhance Children's Creativity for Storytelling*. Poster. ACM Chinese CHI, 2016. **Best Poster, Top 5% (1/22)** of accepted posters.

Professional Service and Keynote

Organizer: ACM UIST'24 AMA Chair, Program Committee Member; ACM DIS'23 Video Chair; ACM CHCHI'23 Program Committee Member; Frontiers in Computer Science Special Issue Journal-Topic Coordinators.

Reviewer: ACM CHI'23, 24; ACM UIST'22, 24; ACM DIS'23, 24; ACM IUI'23; ACM TEI'23, 24; ACM HAI'17; ACM HRI'24; ACM CHCHI'18, 23; IEEE Ro-Man'22; IEEE VR'23.

Keynote:

- MetaLife: Programmable Material Based Interaction Design. Ars Electronica, Austria, 2016.
- Anti-Disciplinary Interaction Design Innovation. Shanghai Jiao Tong University, China, 2019.
- Robot Art and Programmable Materials. Tsinghua University, China, 2020.
- Future Human-Computer Interface: Form and Paradigm. School of Art, Zhejiang University, China, 2020.
- Leveraging Fluidic Morphing Matter to Design Novel Interfaces. Carnegie Mellon University, PA, USA, 2022.
- Morphing Air and Computational Fluid. Nike Global Headquarters, OR, USA, 2023 (co-speaker).
- Sustainable Interface: Energy Harnessing & Mechanical Computation. Tsinghua University, China, 2023.
- Morphing Materials and Sustainable Design. Whipsaw Inc, CA, USA, 2024.

Exhibition and Demo

- **MetaLife**, Interactive Art Installation, Ars Electronica Festival and six other exhibitions:
- **Fireflies**, New Media Art Installation, Milan Triennale 21st:
- **LIME**, Liquid Metal Non-Rigid Interface, UIST'16 Demo.
- **milliMorph**, Shape-Changing Thin Film Interface, MIT Member Meeting 2019 spring.
- **WaxPaper Plus**, Biodegradable Paper Actuator, CHI'23 Demo.
- **Sustainflatable**, Energy Harnessing Technology for Pneumatic Morphing Interfaces, UIST'23 Demo

Fellowship and Funding

- 2023 – now SCC-PG: Understanding the Technical and Social Challenges and Opportunities of Physically and Digitally Augmented Community Gardens. NSF.
Role: Senior researcher, leading proposal drafting and research.
- 2022 Center for Shared Prosperity's Research-to-Practice Grant. Carnegie Mellon University. Role: Co-advisor.
- 2018 - 2021 National Key R&D Program: Large Format High-Resolution Touch Devices.
Role: Senior researcher. Responsible for the development of physical interaction control widgets.
- 2015 - 2017 National Natural Science Foundation of China, Young Scientists Fund - "Research on the theory and key technology of self-driven touchable user interface."
Role: Core researcher. Responsible for non-rigid interface development.

Patent

Guide mechanism of tactile image for the blind	ZL201520456072.7	1 st Inventor
Magnetron refreshing matrix tactile display	ZL201520456074.6	3 rd Inventor
Tactile image dot matrix for the blind	ZL201520456696.9	4 th Inventor
Two-dimensional drive platform for tactile image dot matrix	ZL201520455225.6	4 th Inventor

Teaching Experience

- *Smart Hardware Interaction Foundation*, Tsinghua University, 2019. Course Designer, Teaching Assistant.
- *Interaction Technology*, Tsinghua University, 2015, 2017, 2020. Adjunct Instructor, Teaching Assistant.
- *Tangible Interface Design*, Tsinghua University, 2017. Adjunct Instructor.
- *05-499/899 Inclusive Tangible and Material Interfaces*, Carnegie Mellon University, 2022. Adjunct Instructor.
- *05-499/899 Sustainable Design: Materials, Artifacts and Computational Tools*, Carnegie Mellon University, 2022. Guest Lecturer.

Student (Co)Mentoring

- Jiawei Fang, Research Assistance, UC Berkeley; 2024/1-present.
- Semina Yi, Master of Industrial Design, Carnegie Mellon University; 2023/2-2023/12.
- Di Wu, Master of Architecture, Carnegie Mellon University; 2022/5-2023/12.
- Yuxin Peng, Research Assistance, Royal College of Art; 2023/4-2023/10
- Haiqing Xu, Master of Interaction Design, Tsinghua University; 2022/6-2022/12.
- Hengrong Ni, Master of Architecture, Parsons School of Design; 2022/6-2022/9.
- Hee Yun Choi Ki, Undergraduate of Material Science and Engineering, Carnegie Mellon University; 2022/1-2022/6.
- Justin Ryu, Undergraduate of Material Science and Engineering, Carnegie Mellon University; 2022/1-2022/6.
- Joey Wang, Undergraduate of Computer Science, Carnegie Mellon University; 2022/6-2022/9.
- Lydia Yang, Undergraduate of Computational Biology, Carnegie Mellon University; 2022/6-2022/9.
- Lucas Ding, Undergraduate of Electrical Engineering, Carnegie Mellon University; 2023/1-2023/4.