Tianyu Yu

tianyuyu@berkeley.edu | Website | Google Scholar

EDUCATION

University of California, Berkeley — **Berkeley, CA, USA**
- PhD, Mechanical Engineering — 2029 (expected)

Tsinghua University — **Beijing, China**
- Master of Fine Arts, Information and Art Design — 2024

Tsinghua University — **Beijing, China**
- Bachelor of Engineering, Automation — 2021
- Bachelor of Fine Arts, Industrial Design — 2021

RESEARCH INTERESTS

I'm interested in exploring **novel materials and hardware** that enable unique interactivities beyond conventional computing devices, and **the computational design and fabrication technologies** that provide powerful tools for people to propel the trend forward. I believed that computers in the future should bridge the digital and physical worlds in a seamless and natural manner, thus weaving **"Physical Intelligence"** into the fabric of everyday life.

RESEARCH EXPERIENCE

University of California, Berkeley

Research Assistant
- Morphing Matter Lab | Advisor: Prof. Lining Yao — 08/2024 – Present

Tsinghua University

Research Assistant
- Media and Interaction Lab & The Future Laboratory, Academy of Art & Design | Advisor: Prof. Haipeng Mi, Prof. Yingqing Xu — 07/2021 – 09/2024
- Mercedes-Benz, Beijing & The Future Laboratory — 11/2022 – 09/2024
- Pervasive HCI Group, Department of Computer Science | Advisor: Prof. Chun Yu, Prof. Yuanchun Shi — 03/2020 – 10/2020

Massachusetts Institute of Technology

Visiting Student
- HCIE Group, MIT CSAIL | Advisor: Prof. Stefanie Mueller — 07/2023 – 10/2023
- Tangible Media Group, MIT Media Lab | Advisor: Prof. Hiroshi Ishii, Hila Mor — 07/2019 – 10/2019

Carnegie Mellon University

Research Assistant
- Morphing Matter Lab (remote) | Advisor: Prof. Lining Yao, Dr. Qiuyu Lu — 03/2022 – 05/2023

AWARD AND HONOR

Research Paper Award

- 2026, 🏆 Best Student Paper Award, IEEE International Conference on Soft Robotics (RoboSoft) [1 winner]
- 2026, 🥇 Young Research Paper Finalist, IEEE International Conference on Soft Robotics (RoboSoft)
- 2026, 🥇 Best ZooQuarium (demo) Finalist, IEEE International Conference on Soft Robotics (RoboSoft)
- 2025, 🏆 Best Paper Award, ACM Symposium on User Interface Software and Technology (UIST) [Top 3%]
- 2023, 🥇 Best Paper Honorable Mention, ACM Symposium on User Interface Software and Technology (UIST) [Top 5%]

Academic Award

- 2024, PhD First Year Fellowship, UC Berkeley
- 2024, 2021, Outstanding Graduate of Beijing [Top 5%]
- 2023, 2019, China National Scholarship [Top 1%]
- 2022, 2020, 2019, 2018, 2017, Overall Excellence Scholarship, Tsinghua University
- 2021, Outstanding Graduate Award, Tsinghua University [Top 2%]
- 2021, Outstanding Graduation Thesis Project, Tsinghua University

Art and Design Award

- 2021, Zijin Award (Nanjing) China College Student Design Exhibition (CHENG: Interactive Music Chess)
- 2021, Finalist in Asia Digital Art Award FUKUOKA (CHENG: Interactive Music Chess)
- 2021, A'Design Award (Venous Materials, contributor)

SELECTED PUBLICATION

[1] **Tianyu Yu**, Hajun Lee, Lining Yao. BiEOP: A Bistable, Soft Actuator Driven by Electroosmotic Pumps. *Proceedings of the 9th IEEE International Conference on Soft Robotics* **(IEEE RoboSoft '26) 🏆 Best Student Paper Award, 🥇 Young Research Paper Finalist, 🥇 ZooQuarium (demo) Finalist**

[2] Qiuyu Lu, Semina Yi, Tucker Rae-Grant, **Tianyu Yu**, Dinesh K. Patel, Lining Yao. Morphing Matter to Support Ecological Restoration. **Nature Reviews Materials.** 2026

[3] **Tianyu Yu**, Peisheng He, Bob Tianqi Wei, Chenyuheng Wang, Xueqing Li, Xuezhu Wang, Yao Lu, Wei Yue, Megan Teng, Zihan Wang, Liwei Lin, Haipeng Mi, Qi Lu, Lining Yao. MorphingSkin: A Skin-like Platform that Integrates Multimodal Hydraulic Actuators Based on Flexible Electroosmotic Pumps. *Proceedings of the 38th Annual ACM Symposium on User Interface Software and Technology* **(UIST '25) 🏆 Best Paper Award**

[4] Hajun Lee, **Tianyu Yu**, Mingjie Zheng, David Jourdan, Yuxuan Sun, Lining Yao. Programmable Sponge for Hydro-Active Morphing Module with Light Weight and High-Volume Change. **Advanced Functional Materials. 2025.**

[5] **Tianyu Yu**, Xuezhu Wang*, Yao Lu*(equally contribute), Kejin Yu, Xiwen Yao, Wenjing Deng, Zhiyu Li, Xueqing Li, Xiao Xue, Yue Yang, Yijie Guo, Yuan Yao, Guanhong Liu, Haipeng Mi. A Card-based Co-Design Toolkit for Exploring Smart Material Applications with Multiple Stakeholders: A Case Study on Automotive Interior Design. *Proceedings of the 2025 ACM Designing Interactive Systems Conference* **(DIS '25)**

[6] Ticha Sethapakdi, Paris Myers, **Tianyu Yu**, Juliana Covarrubias, Mackenzie Leake, Stefanie Mueller. Thermochromorph: Dynamic Relief Printing with Thermochromic Inks. *SIGGRAPH Asia 2024 Art Papers* **(SA Art Papers '24)**

[7] **Tianyu Yu**, Weiye Xu, Haiqing Xu, Guanhong Liu, Chang Liu, Guanyun Wang, and Haipeng Mi. Thermotion: Design and Fabrication of Thermofluidic Composites for Animation Effects on Object Surfaces. *Proceedings of the 2023 CHI Conference on Human Factors in Computing Systems* **(CHI '23)**

[8] Qiuyu Lu, **Tianyu Yu**, Semina Yi, Yuran Ding, Haipeng Mi, Lining Yao. Sustainflatable: Harvesting, Storing and Utilizing Ambient Energy for Pneumatic Shape-changing Interfaces. *Proceedings of the 36th Annual ACM Symposium on User Interface Software and Technology* **(UIST '23) 🥇 Best Paper Honorable Mention**

[9] Guanhong Liu*, **Tianyu Yu* (equally contribute)**, Chun Yu, Haiqing Xu, Shuchang Xu, Ciyuan Yang, Feng Wang, Haipeng Mi, and Yuanchun Shi. Tactile Compass: Enabling Visually Impaired People to Follow a Path with Continuous Directional Feedback. *Proceedings of the 2021 CHI Conference on Human Factors in Computing Systems* **(CHI '21)**

[10] Hila Mor, **Tianyu Yu**, Ken Nakagaki, Benjamin Harvey Miller, Yichen Jia, and Hiroshi Ishii. Venous Materials: Towards Interactive Fluidic Mechanisms. *Proceedings of the 2020 CHI Conference on Human Factors in Computing Systems* **(CHI '20)**

PROFESSIONAL SERVICE

Academy Service

- 2026, Workshop Speaker | IEEE International Conference on Soft Robotics (RoboSoft)
- 2025, Workshop Teaching Assistant | 13th International UBI (Ubicomp) Summer School (UBISS)
- 2023, Student Volunteer | ACM Symposium on User Interface Software and Technology (UIST)
- 2021-2024, Undergraduate Student Counselor | Tsinghua University

Reviewer

- ACM CHI (2025-2026); Late-breaking work (2023-2026)
- ACM DIS (2026)
- ACM TEI Work in Progress (2025-2026)

Industry Experience

- 2022-2024, Research team core member | Mercedes-Benz (Beijing) & Tsinghua University
- 2018, Game design competition group leader | Tencent Interactive Entertainment (Beijing)
- 2018, Research intern | REMO AI (Shenzhen)

ADVISING AND COLLEBORATING

Undergraduate and Master students

- 2026 – Present, Justin Seow (Undergraduate student in Mechanical Engineering, National University of Singapore)
- 2025 – 2026, Xueqing Li (Master student in Information and Art Design, Tsinghua University)
- 2025, Bob Tianqi Wei (Master student in Design, UC Berkeley)
- 2023 – 2025, Xuezhu Wang (Master student in Information and Art Design, Tsinghua)
- 2023 – 2025, Yao Lu (Master student in Information and Art Design, Tsinghua University)
- 2023 – 2024, Yang Liu (Undergraduate student in Mechanical Engineering and Automation, Beihang University)
- 2023, Yige Fan (Master student in Industrial Design, Shanghai Jiao Tong University)
- 2023, Zhixiang Zhang (Undergraduate in Automation and Industrial Design, Tsinghua University)
- 2023, Qingyu Hu (Master student in Industrial Design, Tsinghua University)
- 2022 – 2023, Weiye Xu (Undergraduate in Computer Science, Tsinghua University)