

Bing LU

Kinetic Artist, Mechanical Engineer, Architect, Performer
Email: lubing99901@gmail.com Tel: +65 97161841

EDUCATION

Bartlett School of Architecture, University College London
M.Arch Design for Performance and Interaction

London UK
Sep 2022 - Dec 2023

- **Classification:** Distinction
- **Research and Design Projects:**

- *Technically Touchable Series* (Collaborate work with Pranayita Myadam & Julia Zhu) 2023
A series of research on **soft robotics** and **haptic communication** between human&robot and human&human. Prototypes of different mechanisms and **three full-scaled interactive kinetic installations** were developed.
 - I. Haptic Mirror:* Records, restores, and replays human's haptic interactions **across time and distance**, with a combination of a "punching bag" as recorder and a hugging machine with six sets of arms.
 - II. Hugging Bed:* Explores how to build **human-robot connection and trust** through hugs, and how non-human entities develop their own tactile language in human-robot interactions. Exhibited at London Festival of Architecture 2023.
 - III. Em.B:* Investigates the concept of **machine agency**, and human empathy toward non-human entities. Judging from the observer's physical responses to its atypical visual aesthetics, the installation determines whether to extend a physical embrace to the chosen human or remain in a self-hug as a form of protection.
- *Tangible Future: Materiality in Embodied Experience* 2023
A research on diverse layers of materiality in embodied experience, to draw a picture of a more tangible future in this increasingly digital world. This research shows research shows how tangible media with an emphasis on haptics has greater potential to restore the uniqueness and authenticity of embodied experiences, leading to the future of **human-material interaction** where reality is enhanced rather than replaced.
- *PhysicalMetaphysics Or MetaphysicalPhysics* (Collaborate work with Yilun Liu, Sofia Beatrice, Mie Eusebi) 2022
A mixed reality experience raises awareness of the danger of digital illiteracy. A looping connection between the user, the virtual world, and the physical world was created with a headset, user data in Unity and Arduino.

School of Architecture, Tsinghua University
Bachelor of Architecture

Beijing CHINA
Aug 2016 - Jun 2021

- **Related Coursework:** Design of Architecture.Urban.Landscape; Theatre Design; Structural Mechanics
- **Research and Design Projects:**
 - *Tsinghua University Rural Revitalization Workstation | designer & resident architect | Ning-an, China* 2021
 - *Spatial Behaviour Analysis Based on WiFi and Video Data Processing | core member | Jixian, China* 2021
 - *Theatre Design at East Gate of Tsinghua University | designer | Beijing, China* 2020
 - *Installation Design and Construction for Anshan Steel Corperation | manufacture lead | Beijing, China* 2017

RESEARCH & PROFESSIONAL EXPERIENCE

Robotics Research Centre, Nanyang Technological University
Research Associate

SINGAPORE
May 2024 - now

- **Research Field:** Soft Robotics; Universal Adaptive Gripper; Magnetic Actuated Miniature Robot
- **Research Projects:**
 - *Multi-modal Gripper for Schaeffler* (Collaborate work with Jia En Aw, Yang Shu Min, Tu Yun-Jui, Cai Zhi Song)
Research on a universal gripper that is able to grip a wide range of objects with varying geometries, stiffness, and surface properties. Mainly work on the shape-memory-polymer-based (SMP) adhesion
 - *Deep Learning for the Design of Magnetic Cilia Array and Its Deformable Environment*
A research on using deep learning to optimise the distribution of the Magnetic cilia array and its deformable environment, to achieve the desired microfluid for lab-on-chip and medical application.

Freelance
Kinetic Artist & Set Designer

London, Barcelona, hybrid
Jan 2024 - July 2024

- **Projects:**
 - *Gomde: Orte Des Wandels / Sites of Transformation, Salzkammergut 2024*
Technical Support (hybrid) for two installations: *Cellular Refuge* by Alberto Gonzalez; *Bardo* by Jonathan Tyrrell
 - *LLUM Barcelona Festival 2024*
Technical Support & Setup Support for a kinetic installation- *Jacob's Wall* by Parker Heyl
 - *Live Performance at Crux AV London*
Set Designer - Designed and built a tentacle robot as main set for a live audio-visual performance by Ben X Tan

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RESEARCH & PROFESSIONAL EXPERIENCE

Bartlett School of Architecture, Rhino Workshop <i>Teaching Assistant</i>	London UK <i>Jan 2024</i>
Bartlett School of Architecture, Kinetic System Workshop <i>Teaching Assistant</i>	London UK <i>Dec 2023</i>
Bartlett Summer Show Launch Party <i>Light Design & Control; Light & Audio Set-up</i>	London UK <i>June 2023</i>
ennead Architects <i>Architectural Designer</i>	Shanghai CHINA <i>Aug 2021 - Jan 2022</i>
<ul style="list-style-type: none">• Participated Projects: Tencent Dachanwan Urban Design; Bilibili Headquarter Design; Nanda District Plot 111-01 Design• Team Role: 3D modelling, master plan design, façade design in conceptual design phase; detail design	
Architectural Design & Research Institute of Tsinghua University <i>Intern</i>	Beijing CHINA <i>May 2020- Aug 2020</i>
<ul style="list-style-type: none">• Participated Projects: Hangang District Urban Design International Master Competition; Taiji Theater in Chenjiagou• Team Role: Renewal strategy research and proposing; 3D modelling; Theatre stage and audience hall design	

EXHIBITIONS

Crux <i>Set Designer - Designer of the Tentacle set installation for the live Audio-Visual Performance</i>	London UK <i>Jan 2024</i>
Bartlett Fifteen Show <i>Researcher & Artist - Researcher on Tangible Interaction & Designer of the Technically Touchable series</i>	London UK <i>Dec 2023</i>
DfPI Project Fair <i>Artist - Designer of the Em.B installation of Technically Touchable series</i>	London UK <i>Dec 2023</i>
Ars Electronica Festival <i>Artist - Designer of the adaptive grippers and Hugging Bed installation of Technically Touchable series</i>	Linz AUSTRIA <i>Sep 2023</i>
London Festival of Architecture <i>Artist - Designer of the Hugging Bed installation of Technically Touchable series</i>	London UK <i>June 2023</i>

EXTRACURRICULAR ACTIVITIES

<i>Performer at musical theatre & drama on stage; at several short films</i>	<i>2020-2024</i>
<i>Conceptual Jewellery Designer & peripheral product designer for Technically Touchable series</i>	<i>2023-2024</i>
<i>Vice Director at the Student Union of Tsinghua University</i>	<i>2018</i>
<i>Vice President at the Student Union of School of Architecture, Tsinghua University</i>	<i>2019</i>
<i>Volunteer consultant for the entrance of Tsinghua University in Heilongjiang Province</i>	<i>2017-2021</i>
<i>Volunteer teaching in Lanzhou, Zhangye, Baiyin</i>	<i>2017</i>

SKILLS

Computer Skills

- Advanced proficiency in **Arduino, JavaScript, Processing(Java), Rhino, Grasshopper, Cinema4D, Revit, Enscape, Lumion, Fusion360, AutoCAD, Adobe Suite (Photoshop, Illustrator, InDesign, Premiere Pro, Audition)**
- Proficiency in **Python, C#, SolidWorks, TouchDesigner, Unity, Max MSP, Maya**

Fabrication

- Advanced proficiency in **3D Printing, laser cut, solder, mold casting, CNC, textile & wood machinery.**
- Proficiency in **waterjet, lathe, 3D scanning**

Language

- **Mandarin (native); English (fluent); German (basic)**