Yujie Zhou

Human-Computer Interaction · Personal Fabrication · Industrial Design · Parametric Design · Flexible Products

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HCI researcher and product designer working across **computational fabrication, interactive hardware, inclusive products, and research-driven software tools**. Experienced in turning **parametric design, material experiments, and prototyping workflows** into validated methods, working prototypes, and communicable design outcomes.

Education

Zhejiang University

MSc in Industrial Design Engineering (Mechanical)
Sep 2023 — Jul 2026

- Relevant coursework: Integrated and Innovative Design, Design Research, Product Innovation and Business Models, Intelligent Design, Service Design, and Design Engineering.
- Conducted graduate research at the Engineering Research Center of Computer-Aided Product Innovation Design, Ministry of Education, with a focus on smart hardware, Grasshopper-based workflows, and fabrication research.

Beijing Institute of Fashion Technology

BA in Industrial Design
Sep 2019 — Jul 2023

- Relevant coursework: Design Thinking and Methods, User Research and Market Research, Interactive Design Studio, Smart Hardware, Design Materials and Processes, and Computer-Aided 3D Design.
- Graduated with honors including Outstanding Undergraduate Graduation Project in Beijing and Outstanding Graduate of Beijing Municipality, while completing multiple Internet+ innovation and entrepreneurship projects.

Research

VoluBridge: Design and Fabrication of Volumetric Island-Bridge Structures for Rigid-Flexible Electronics

Lead Researcher / Under Review
Mar 2026

- Proposed a **volumetric rigid-flex electronics framework** that integrates Rigid Islands, Compliant Bridges, and embedded conductive pathways into a single self-supporting structure for deformable interactive objects.
- Built a fabrication-aware **Rhino 8 + Grasshopper toolchain with custom C# components** for component anchoring, 3D routing, bridge generation, and printability constraints.
- ★ Validated the framework through four application prototypes and an 8-participant workshop, establishing a complete loop from system concept to toolchain and fabrication workflow.

E-Joint: Fabrication of Large-Scale Interactive Objects Assembled by 3D Printed Conductive Parts with Copper Plated Joints

Core Contributor / UIST 2024 / James Dyson Award
Oct 2024

- Authors: Xiaolong Li, Cheng Yao, Shang Shi, Shuyue Feng, Yujie Zhou, Haoye Dong, Shichao Huang, Xueyan Cai, Kecheng Jin, Fangtian Ying, Guanyun Wang.
- Contributed to a fabrication workflow that unifies structural joints and electrical connectivity for large interactive objects assembled from 3D printed conductive parts.
- Supported the Rhino3D + Grasshopper parametric toolchain for model segmentation, contact-point selection, joint generation, and internal cavity circuit modeling.
- ★ Demonstrated the method through furniture-scale interfaces, electronic musical instruments, and modular devices, showing a reusable workflow for **large-format interactive object fabrication**.

Intercircuit: Electroplating with Cavities for Fast Fabrication of Complex and High-Performance 3D Circuits

Core Contributor / CHI EA 2024
May 2024

- Authors: Xiaolong Li, Cheng Yao, Yujie Zhou, Shuyue Feng, Zhengke Li, Yiming Cheng, Shichao Huang, Haoye Dong, Mengru Xue, Guanyun Wang.
- Worked on the design tool, fabrication workflow, and application exploration for cavity-based electroplating of complex internal 3D circuits in consumer-grade multi-material printing.
- Helped develop a **Rhino / Grasshopper plugin** that converts spatial polylines into conductive traces, adjacent cavities, clamping features, and vent structures.

Haptic Zoo: A Symphony of Multi-sensory Design to Bridge the Gap in Parent-Child Interaction for Visually Impaired Parents

Research Collaborator / ICEC 2025
Aug 2025

- Authors: Shican Zhou, Shupei Huo, Mingyue Gu, Anchu Yu, Zhixuan Yang, Mingyue Guo, Run Ye, Yujie Zhou, Qi Xu, Cheng Yao.
- Contributed to a multisensory toy system combining tactile textures, magnetic assembly, RFID-triggered audio, and role-complementary interaction for visually impaired parents and sighted children.
- Supported prototype production and the organization of results from 19 family studies, extending accessibility design from basic reachability to **collaborative parent-child play**.

Research of Lower Limb Rehabilitation System with Multisensory Feedback Based on Virtual-Real Coordination

Corresponding Author / World Ecological Design 2024
Mar 2024

- Authors: Fan Zhang, Langjing Xu, Yujie Zhou, Nan Zhang, Zhihong Liu.
- Supported the real-time TOFSense + Arduino + Unity data pipeline for a lower-limb rehabilitation system that combines virtual-real coordination with multisensory feedback.
- Helped translate wearable sensing, game interaction, and feedback design into a more sustainable **home rehabilitation training experience**.

Alleviating Elderly’s Medical Communication Issue with Personalized LLM-Generated Short-Form Video

Co-first Author / World Ecological Design 2024
Mar 2024

- Authors: Nan Zhuang, Zhenyuan Ma, Yujie Zhou, Xinyi Li, Pinhao Wang, Zhiyuan Huang, Shuo Zhai, Fangtian Ying.
- Co-developed a workflow that translates personas, concerns, and video preferences into LLM-generated personalized medical explainer videos for elderly patients in MRI-related communication scenarios.
- The study showed reduced reluctance, frustration, and mistrust, offering a transferable method for **age-friendly medical communication design**.

Exploring Perceptions of Children's Learning Stress for Stress Management

Research Collaborator / Science and Information Conference 2024
Jun 2024

- Authors: Pinhao Wang, Yujie Zhou, Guang Dai, Zhengke Li, Xin Zhao, Jiahui Lu, Cheng Yao, Fangtian Ying.
- Contributed to a multimodal stress-awareness prototype for home learning that combines HRV signals, children’s self-reports, and synchronized parent-child feedback.
- Explored how environmental cues and family interaction can support gentler and more sustainable **stress management for children**.

Awards

Biosyntax Vanguard —— A Programmable Logic-Gated Design for Ecological Restoration

Project Lead / Red Dot Award: Design Concept 2026
Jan 2026

- Members: Yujie Zhou, Antong Lv, Hongli Xi, Run Ye, Jiahui Lu.
- Reframed ecological restoration as “Environmental Debugging” and proposed a distributed, wind-driven system that combines DLA-generated forms, stimuli-responsive shells, and dormant microbial payloads.
- Mapped **four environmental trigger gates** to four ecological threats, turning a speculative system into a coherent design proposal with clear if-then remediation logic.
- ★ Delivered a complete design narrative from problem framing and mechanism design to scenario mapping, lifecycle logic, and award-ready system storytelling.

Invisible: 3D Printed Flexible Parametric Pressure-sensing Innovative Structure Design

Project Lead / Core77 Student Winner / UXDA National Second Prize / NCDA Beijing First Prize
Oct 2023

- Members: Yujie Zhou, Fan Zhang, Yurui He, Qiruonan Li, Xinyi Tian, Xingguo Yan, Antong Lv.
- Led a full design-research workflow around flexible capacitive pressure-sensing structures, from theoretical framing and parametric tool development to sample testing and application prototypes.
- Built a **Grasshopper-based generation tool** for conductive regions and structural parameters, then translated it into gait-sensing insoles and a deformable parametric seating prototype.
- ★ Established a workflow that moves directly from parameter definition to sample validation and application prototyping, showing how sensing structures can be embedded into product form.

Touchable Pen -- for visually impaired people

Project Lead / iF Design Talent Award 2022
Mar 2022

- Members: Yujie Zhou, Ziyi Wang, Fan Zhang, Antong Lv.
- Reframed Braille writing from reverse embossing to additive dot formation by adapting the heating, feeding, and output logic of a compact 3D printing pen.
- Delivered a **functional mechanism prototype** that creates raised Braille dots directly on paper, improving immediacy of feedback and supporting later patent output.

AIRSAVER

Team Member / Red Dot Design Concept / James Dyson Award China Top 8 / DIA Merit Award
Oct 2024

- Members: Run Ye, Yujie Zhou, Zhenyuan Ma, Guanyun Wang, Jiaji Li, Mengru Xue, Haowen Ren.
- Contributed to a self-inflating emergency thermal vest concept designed for cold-environment rescue, combining can-sized storage, pull-tab activation, and **second-level deployment**.

Open-source Projects

Obsidian-EagleBridge

Plugin Developer / Open-source GitHub
Dec 2025

- Author: Yujie Zhou.
- Designed an asset workflow that bridges Eagle-managed media libraries with Obsidian writing environments, addressing attachment sprawl, cross-device path failures, and source traceability issues.
- Implemented multi-library profiles, alias and port settings, grouped path parsing, reference search, deep-link jumping, batch migration, and export support.

★ The plugin supports upload, preview, tag synchronization, reference lookup, and export across Windows/macOS desktop environments and both Markdown and Canvas workflows. **According to download statistics, the current user base exceeds 5,000.**

Projects & Internships

Beijing Zhihhe Chuanglue Consulting Co., Ltd.

Trend Research Assistant / TrendTouch
Mar 2021 — Present

- Continuously tracked technology media, public lab outputs, new products, services, and social issues, turning scattered signals into structured research material for design innovation and lifestyle forecasting.

★ Applied TEPSEE and the event-phenomenon-trend-value framework to commissioned studies, annual trend reports, and TrendTouch content operations; in 2025, contributed to 252 published posts, 2000+ curated signals, and 12000+ interactions.

Yueyu Group

Team Member / Far-Infrared Outdoor and Mobility Products
Sep 2021 — Sep 2022

- Supported long-term research, opportunity framing, and concept development for far-infrared outdoor and mobility products, with a focus on a multifunctional heated sleeping bag and an e-bike windshield.
- Expanded the problem of “warmth” from night-time rest or simple wind protection into multi-scenario thermal comfort across camping, road trips, office naps, winter commuting, and daily riding.

Tianjin Jingzhan Technology Development Co., Ltd.

Team Member / Graphene Therapeutic Eyewear Concept
Mar 2021 — Aug 2021

- Helped translate graphene-based thermal therapy from bulky beauty masks into a more wearable smart-eyewear direction through competitor research, product definition, fit strategy, and structural exploration.
- Contributed to the convergence from mask-based concepts to a fashion-oriented therapeutic eyewear proposal, including concept decks, structure studies, and disclosure-oriented design materials.

International Bamboo and Rattan Centre

Research Assistant / Biomass Flexible Materials
Jun 2022 — Dec 2022

- Participated in early-stage experiments on bamboo-based flexible materials, including delignification, fibrillation, twisting, and tensile testing across bamboo green, bamboo yellow, and bamboo skin samples.

- Investigated how process variables and test setups affected mechanical behavior, building the groundwork for later research on spinnable bamboo fiber bundles.

Yize (Beijing) Technology Co., Ltd.

Design Intern / Packaging and Visual Design
Jan 2021 — May 2021

- Supported client-facing packaging and visual design projects, including tea gift box graphics, pattern extension, layout application, and small-batch commemorative product studies.
- Built early experience in translating visual concepts into presentation-ready and revision-friendly deliverables for external clients.

Skills

Research Methods	User Interviews, Usability Testing, Task Analysis, Experimental Design, User Research, Competitor Analysis, Trend Analysis, Information Architecture
Code & Systems	JavaScript, TypeScript, Python, C#, Obsidian Plugin Development, Vibe Coding
3D Design & Parametrics	Rhino, Grasshopper, nTop, Fusion 360, Blender, KeyShot, Figma
Prototyping & Fabrication	3D Printing (FDM, SLA), G-code, Arduino, ESP32, Smart Hardware Prototyping, Digital Fabrication Workflows