

Jianing (Nomy) Yu

Cambridge, MA | yujianing0210@gmail.com | (617) 359 8840 | Google Scholar | Website

Research Interests

My research focuses on cognition- and context-aware adaptive AI interfaces that augment human cognition, behavior, and creativity. I am particularly interested in how multimodal, embodied, and personalized intelligence (through wearable and spatial computing systems) can move AI beyond screen and integrate it more meaningfully into everyday life.

Education

Harvard University Graduate School of Design, Master in Design Studies Sep 2024 – May 2026
Cross-Registration at MIT Media Lab, Human-Computer Interaction

The University of Hong Kong, BAsc in Design + Computer Science Sep 2019 – May 2023
GPA: 3.83/4.0 (First Class Honours); Exchange at National University of Singapore, Aug – Dec 2022.

Publications

- [C.2] Humbi Song*, **Jianing Yu***, Jingyi Wang*, Jose Luis Garcia del Castillo (2025). **Creative 3D Modeling Through Human-AI Interaction: A Non-Linear, Incremental, and Iterative Workflow Framework**. In *ACADIA 2025*.
- [C.1] Shao Zhang, **Jianing Yu**, Xuhai Xu, Changchang Yin, et al. (2024). **Rethinking Human-AI Collaboration in Complex Medical Decision Making: A Case Study in Sepsis Diagnosis**. In *ACM CHI 2024*.
- [P.1] Cyrus Clarke, **Jianing Yu**, Melo Chen, Yuen Zhou, Hiroshi Ishii (2025). **The Anemoia Device: A Tangible AI System for the Co-creation of Synthetic Memories through Scent**. In *NeurIPS 2025 Creative AI Track*.
- [W.4] **Jianing Yu***, Jingyi Liu*, Xinyan Li* (2026). **NeuroScape: EEG-Adaptive Spatial Soundscapes for Meditation through LLM-Guided Scene Planning**. In *ACM UbiComp/ISWC 2026 Workshop ETBCI*. (Accepted)
- [W.3] **Jianing Yu***, Ming Yuk Choy* (2026). **Battle of Infections: Exploring Face-Adjacent Wearable Controllers for Embodied Play**. In *ACM UbiComp/ISWC 2026 Workshop WDGE*. (Accepted).
- [W.2] Chloe Ni*, **Jianing Yu***, Lilith Yu (2026). **Kinesis: A Multi-Agent Wearable System for Contextualized Posture Correction**. In *ACM UbiComp/ISWC 2026 Workshop WearAgent*. (Accepted)
- [W.1] Yunge Wen*, Awu Chen*, **Jianing Yu***, Jas Brooks, Hiroshi Ishii, Paul Pu Liang (2026). **AromaGen: Interactive Generation of Rich Olfactory Experiences with Multimodal Language Models**. In *CVPR 2026 Workshop SOS*.

* Co-first authors (equal contribution).

Relevant Experience

Hardware Interaction Design Intern, PICO (ByteDance) – San Jose, CA Jun – Sep 2025

- Conducted a DOE-based human factors study on AR glasses, designing experiments and surveys, running user interviews, and applying regression/ANOVA to quantify comfort drivers and inform design optimization.
- Proposed a human-in-the-loop personalization framework for AR glasses, combining GRPO-inspired reward modeling and a RAG-based design memory to support adaptive context-aware interaction and structured knowledge transfer.

Research Assistant, Department of Architecture, The University of Hong Kong Jun 2023 – Aug 2024

- Topic: 3D Generation with Neural Radiance Fields and Gaussian Splatting, Supervisor: Dr. Haotian Zhang
- Developed an AI-driven workflow combining Instant-NGP, Stable Diffusion, and LoRA to explore customized architectural space generation, integrating generative AI with spatial design.
- Experimented with photogrammetry techniques and proposed a workflow for heterogeneous 3D space creation.
- Created a digital exhibition space in Unity with over 60 scanned architectural models, collecting feedback from faculty and students to refine usability and interaction design.

Student Research Assistant, Human-Centered AI Lab, Northeastern University May – Sep 2023

- Topic: Rethinking Human-AI Collaboration in Medical Decision Making, Supervisor: Prof. Dakuo Wang
- Contributed to framework development, formative study design, UI prototyping, and user study of the paper, focusing on enhancing trust, usability, and cognitive support in human-AI decision-making workflows.
- Conducted interviews with doctors, transcribed and coded responses to identify trust and usability issues in the existing AI-powered risk-scoring module.
- Designed interface prototypes for a new risk-scoring system using Figma, and validated through a structured user study, resulting in improved decision confidence and perceived usability among target users.

Product Research and Development Intern, Castle Vast Ltd. – Hong Kong SAR

Jun – Sep 2022

- Conducted market research on 3D social media platforms, identifying user preferences and design opportunities.
- Designed and iterated the user experience for registration and login processes of the new website using Figma.

Projects

Kinesis, Multi-Agent Embodied AI System for Adaptive Posture Correction

Feb 2026 – Present

- Built a wearable multi-agent system that combines real-time IMU posture sensing, EMG-based response measurement, and vibrotactile actuation to support adaptive, context-aware posture correction.
- Designed Body, Context, and Planner agents that share multimodal state, confidence, and memory to coordinate intervention decisions across body posture, environment, and behavioral history.

NeuroScape, EEG-Adaptive Multimodal Agent for Spatial Meditation Soundscapes

Feb 2026 – Present

- Developed a closed-loop EEG-adaptive spatial audio system that streams Muse brainwave data, extracts attention/relaxation-related features, and generates real-time soundscape adaptations for meditation.
- Implemented an LLM-mediated pipeline that translates EEG features into semantic scene plans, layered sound structures, and Unity-compatible 3D audio parameters, enabling closed-loop human-agent co-regulation through spatial sound.

Teaching Experience

- Teaching Assistant, Atlas of the Unseen Workshop, MIT City Science Group & HKU

Aug 2024

- Teaching Assistant, Arduino-based environmental sensing, HKU

Spring 2024

- Teaching Assistant, 3D modeling and GenAI tool usage, HKU

Spring 2024

- Teaching Assistant, ACADIA 2023 workshop on NeRF & Gaussian Splatting, HKU

Nov 2023

Awards and Scholarships

- Core77 Design Awards 2026 – Emerging Technologies Award

Jun 2026

- MIT Hardmode AI Hackathon – Winner of Connection Track

Feb 2026

- Design Trust Seed Grant – HKD 50,000

Aug 2024

- International Design Awards – Bronze Award

Apr 2024

- Global iT Design Award – Gold Prize

Dec 2023

- HKU Undergraduate Research Fellowship – Top 10%

2022-2023

- C.V. Starr Scholarships – Exchange Abroad Studies

2022-2023

- Dean's Honours List – Top 10%

2020-2023

- The 5th China VR/AR/MR Creation Competition - Outstanding Award

Sep 2020

Skills

AI / ML: Python, PyTorch, TensorFlow, RAG, LangChain, RLHF, Prompt engineering, LLM agent frameworks, OpenCV

Prototyping: Figma, Adobe Creative Suite, Vibe coding, p5.js, HTML/CSS, Rhino, AutoCAD, Grasshopper, 3D printing, Arduino, ESP32, Raspberry Pi, Unity

Research: Experimental design & user studies, user research, usability testing, statistical analysis, multimodal data collection, DOE analysis, qualitative coding, Qualtrics, MAXQDA