

# Bob Tianqi Wei

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## Education

<b>University of California at Berkeley, College of Engineering</b> Master of Design, Human-Computer Interaction	Aug 2023 – Dec 2024 Distinguished Scholar, 3.66/4
<b>Tsinghua University, Academy of Arts and Design</b> B.A. in Industrial Design	Aug 2019 – Jun 2023 3.71/4

## Skills

- Programming:** Python, TypeScript/JavaScript, C++, Java, HTML/CSS, MATLAB, Processing, Max/MSP
- ML & Vision:** PyTorch, scikit-learn, CLIP, SentenceTransformers, ResNet50, OpenCV, UMAP, LLM APIs, prompt design
- Data & Systems:** Vector search, Flask, Express, Node.js, React 18, Docker, Git
- HCI Research:** study design, IRB/ethics, interviews, thematic analysis, usability testing, accessibility
- Tangible Interfaces:** embedded systems, sensors & actuators, soft robotics
- Fabrication:** mechanical design, CAD: Rhino, SolidWorks, Fusion 360, digital fabrication, flow/pressure & tensile testing
- Design:** interaction design, rapid prototyping, Figma, Adobe CC

## Publications

- MorphingSkin: A Skin-like Platform that Integrates Multimodal Hydraulic Actuators Based on Flexible Electroosmotic Pumps.** 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.  
*ACM Symposium on User Interface Software and Technology (UIST) 2025*, BEST PAPER AWARD. 10.1145/3746059.3747685
- Generating Visual Aids to Help Students Understand Graphic Design with EKPHRASIS.** **Bob Tianqi Wei**, Shayne Shen, Shm Almeda, Bjoern Hartmann.  
*ACM Conference on Human Factors in Computing Systems (CHI) 2025*. 10.1145/3706599.3719807
- Labor, Power, and Belonging: The Work of Voice in the Age of AI Reproduction.** Shm Almeda, Robin Netzorg, Isabel Li, Ethan Tam, Skyla Ma, **Bob Tianqi Wei**.  
*ACM Conference on Fairness, Accountability, and Transparency (FAccT) 2025*. 10.1145/3715275.3732082
- Demonstration of Sympathetic Orchestra: An Interactive Conducting Education System for Responsive, Tacit Skill Development.** **Bob Tianqi Wei**, Shm Almeda, Ethan Tam, Dor Abrahamson.  
*ACM Symposium on User Interface Software and Technology (UIST) 2024*. 10.1145/3672539.3686783
- Material-Driven Design and Fabrication of Devices for Direct Ecological Interventions: Practices, Challenges, and Opportunities.** Yaning Li, Ziqian Yu, Chengjun Li, Yuexi Chen, Yue Yang, Tingyu Cheng, Ziyao He, **Bob Tianqi Wei**, Eldy S. Lazaro Vasquez, Zeyu Yan, Di Wu, Tianyu Yu, Yuecheng Peng, Dinesh K. Patel, Huaishu Peng, Nivedita Arora, Aditi Maheshwari, Guanyun Wang, Teng Han, Josiah Hester, Jean-Baptiste Labrunie, Andreea Danilescu, Pedro Lopes, Vikram Iyer, Hiroshi Ishii, Lining Yao, Qiuyu Lu, Meng Li.  
*ACM Conference on Human Factors in Computing Systems (CHI) 2026, Paper Under Review*

## Experience

- UC Berkeley EECS - Berkeley Institute of Design Lab. Prof. Bjoern Hartmann**, Researcher Nov 2023 – Present
- HCI research at the intersection of generative AI and creative work; mixed-methods integrated with system building
  - Developed [ArtiFactor](#), a multi-agent creative platform with LLMs and multimodal ML; full-stack orchestration (React/Node/Flask, Dockerized ML)
  - Co-authored *EKPHRASIS* (CHI '25) and *Labor, Power, and Belonging* (FAccT '25)
- eTopus Technology Inc.**, Software Engineer – Frontend, San Jose, CA Oct 2025 – Present
- Built OpSyn, an internal multi-agent enterprise AI assistant using a DeepSeek-distilled LLM, Claude, and a Flask backend
  - Implemented React/Vite chat UI with streaming responses, file uploads, and Azure-authenticated user sessions
  - Integrated vector search and retrieval-augmented generation over SharePoint and Jira data for operational workflows
  - Designed explanation UIs that visualize agent tool-calls and support user trust in enterprise AI decisions
- Anything (Create, Inc.)**, Software Engineer (Contract), San Francisco, CA Jul 2025 – Sep 2025
- Shipped high-fidelity marketing sites for the [Anything](#) AI app builder; collaborated with design and founding team
  - Converted Figma specs into pixel-accurate, responsive React UI; established reusable components and design tokens
  - Contributed to internal AI-agent workflows and QA; improved UI quality and handoff with engineering
- UC Berkeley ME - Morphing Matter Lab. Prof. Lining Yao**, Researcher Feb 2025 – May 2025
- Co-designed a portable driver; contributed to schematic and PCB layout, isolation design, connector interfaces, and board

- bring-up for multimodal hydraulic actuation
- Led structural stack-up and enclosure design; established repeatable fabrication workflows and assembly fixtures
  - Authored the *Design Space and Applications* sections; proposed and prototyped multiple application scenarios
  - Produced demo assets—storyboarded, filmed, and edited videos; prepared figures and documentation
  - Co-authored *MorphingSkin* (UIST '25 Best Paper)
- UC Berkeley School of Education.** Prof. Dor Abrahamson, Graduate Student Researcher Aug 2023 – Dec 2023
- Investigated embodied learning and tacit skill acquisition in interactive educational environments
  - Developed *Sympathetic Orchestra* (UIST '24), a webcam-gesture + Web Audio system for responsive virtual-orchestra practice
- Tsinghua University, Dept. of Industrial Design.** Prof. Lintao Tang, Student Researcher Nov 2022 – Jul 2023
- Built *ILLUMINATIO*, an adaptive, AI-driven ambient lighting system responsive to user behavior (Raspberry Pi, Python/C++)
  - Synthesized illumination design principles from 18 technical publications to guide control parameters and evaluation
- Association for Computing Machinery (ACM),** Reviewer Sep 2024 – Present
- Reviewed submissions for the ACM CHI conference, focusing on CSTs and education

## Technical Projects

- Anything Font Classifier v4** – Font recognition model for UI screenshots (PyTorch, LoRA) Jul - Sep 2025
- Fine-tuned a DINOv2-based image classifier on a curated 394 Google Font Families dataset using LoRA for efficient adaptation
  - Embedded pad-to-square, resize, and ImageNet normalization into the model's forward pass to allow raw UI screenshots input
  - Integrated it into a production screenshot-to-UI pipeline, achieving ~86% top-1 accuracy on a held-out test set
- PartSelect Chat Agent** – AI assistant for appliance parts support (React, Node.js, Pinecone) Jun 2025
- Implemented a full-stack LLM-based support agent for refrigerator and dishwasher parts using DeepSeek, React, and Node.js
  - Integrated Pinecone vector search and query normalization to map user requests and model numbers to documentation
  - Delivered a fully functional prototype with <3s response latency, <1% error rate, and full mobile optimization within 48 hrs

## Teaching

- BPC Art Studio, AI Art and Creative Coding Courses**, Instructor, Palo Alto, CA Fall 2025
- UC Berkeley, INFO 213: Introduction to User Experience Design**, TA Fall 2024
- Grades and provides feedback on assignments and coaches students practice in-depth interviews and UX research.
- UC Berkeley, DESINV 22: Prototyping and Fabrication**, Lead TA Summer 2024
- Teaches manufacturing techniques and basic electronics to help students build a Bluetooth-controlled vehicle.
- UC Berkeley, INFO C262: Theory and Practice of Tangible User Interfaces**, Lead TA Fall 2023
- Delivered introductory courses on open-source hardware development and programming.
  - Developed a course website enabling students to submit assignments, access course materials, schedule office hours.
- Tsinghua University, Romantic and 20th Century Piano Pieces Performance**, Lead TA Fall 2021, Spring 2022
- Xiaoze Art Studio and Wufang Design Studio, Graphic Design Courses**, Instructor (Part Time) Aug 2019 - Feb 2021

## Presentations and Speeches

- ACM UIST '25, Busan, South Korea. *MorphingSkin*, Best Paper, demo & paper Oct 2025
- ACM FAccT '25, Athens, Greece. *Labor, Power, and Belonging*, paper Jun 2025
- ACM CHI '25, Yokohama, Japan. *Generating Visual Aids with EKPHRASIS*, paper & poster Apr 2025
- UC Berkeley MDes Graduation Ceremony. *The Transformative Power of Interdisciplinary Design*, invited speech Dec 2024
- UC Berkeley MDes Graduate Exhibition. *EKPHRASIS: Learning Tacit Knowledge in Visual Design*, demo Dec 2024
- Jacobs Winter Showcase (HCI), UC Berkeley. *Romantic Breakups as a Lens for Industrial Cybersecurity*, poster Dec 2024
- ACM UIST '24, Pittsburgh, PA, USA. *Sympathetic Orchestra*, demo Oct 2024
- UC Berkeley Education Research Day. *Building Professional Hearing*, paper Apr 2024
- Jacobs Design Showcase, UC Berkeley. *Poetry in Motion*, installation; *Plano*, installation Dec 2023
- ISAM '23, Carnegie Mellon University, Pittsburgh, PA. *ILLUMINATIO*, poster Oct 2023
- Undergraduate Exhibition, Academy of Arts and Design, Tsinghua University. *Intelligent Illuminating Product Design Based on Machine Learning*, demo & paper Jun 2023
- Student Academic Exhibition, Tsinghua University. *Sympathetic Orchestra*, demo & poster Apr 2023

## Awards

- Best Paper Award**, ACM Symposium on User Interface Software and Technology (UIST) 2025 Oct 2025
- MDes Distinguished Scholar Award**, University of California, Berkeley Mar 2023
- Social Work Excellence Scholarship**, Tsinghua University 2020, 2023
- Scholarship for Excellence in Literature and Art**, Tsinghua University 2020, 2021, 2022
- Honorable Mention**, 3rd China College Student Power Battery Innovation Competition Nov 2021

**First Prize of Youth Group**, The 7th Macau-Asia Pacific Youth Piano Competition  
**Second Prize of Tsinghua University**, Beijing College Students Engineering Ability Competition

Jul 2021  
Dec 2019

## Music Performance

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<b>Bob Tianqi Wei: Stringed Harmony</b> , Live at CNMAT, UC Berkeley	May 2024
<b>Tianqi Wei &amp; Friends' Graduation Concert</b> , Live at Tsinghua University Music Library	May 2023
<b>Rachmaninoff: Piano Concerto No.2</b> , Conductor, Live at New Tsinghua School Concert Hall	May 2022
<b>Elisabeth (musical, Japanese), Rudolf</b> , Live at Meng Minwei Hall, Tsinghua University	Oct 2021
<b>J.S.Bach: Concerto in D Minor BWV 974, Piano Solo</b> , Live at Steinway Hall Beijing	Jul 2021
<b>J.S.Bach: Goldberg Variations BWV 988, Piano Solo</b> , Live at Meng Minwei Concert Hall	Dec 2020

## Leadership

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<b>Tsinghua University Student Art Troupe Clavier Team</b> , President	Aug 2021 - Aug 2022
• Organized and held large-scale concert activities and art popularization lectures.	
• Empowered the team to participate in international professional competitions.	
<b>Tsinghua University iOS Club</b> , Leader of Publicity Group and Member of Product Manager Team	Aug 2021 - Aug 2022
• Represented the club to Apple headquarters for an interaction and hardware theme exchange, allowing the club to receive support for development equipment, funding, and internship resources.	
• Led team developed a cognitive training app for the elderly to help them practice mental exercises to prevent dementia.	
<b>Tsinghua University Student Union</b> , Member of Sport and Recreation Department	Aug 2019 - Aug 2020
• Organized basketball games and planned a promotional campaign for graduation music festivals.	