Bob Tianqi Wei

Berkeley, CA | bobtianqiwei@berkeley.edu | 510-816-2381 | www.bobwei.top | github.com/bobtianqiwei

Multidisciplinary engineer and creative technologist with expertise in AI agent systems, HCI, and full-stack development. Experienced in building production-ready AI agents and designing intelligent user-facing tools. Passionate about bridging intelligent automation with human-centered design through rapid prototyping and cross-functional collaboration.

Education

University of California at Berkeley, College of Engineering, CA, USA — Aug 2023 – Dec 2024
M.Des in Human-Computer Interaction — Distinguished Scholar, 3.66/4

Tsinghua University, Academy of Arts and Design, Beijing, China — Aug 2019 – Jun 2023
B.A. in Industrial and Product Design — 3.71/4

Professional Experiences

AI Agent Engineer (Case Study), Instalily AI / PartSelect, Remote — Jun 2024

- Engineered a production-ready e-commerce AI agent using DeepSeek, React, and Node.js to support customer service.
- Integrated Pinecone vector DB (1536-dim embeddings) enabling sub-500ms semantic search and compatibility checks.
- Built intelligent query preprocessing and multi-modal response generation, handling part/model number recognition, troubleshooting, and step-by-step installation guidance.
- Delivered a fully functional prototype with <3s response latency, <1% error rate, and full mobile optimization within 48 hrs.

Research Engineer, Berkeley Institute of Design Lab, UC Berkeley EECS, Part-Time — Nov 2023 - Present

- Developed ArtiFactor, an AI-powered creative workflow platform integrating multi-agent orchestration, LLMs, and multimodal ML models (CLIP, ResNet50, MiniLM) to support intelligent content generation and analysis.
- Designed a semantic knowledge base system with vector embeddings. Architected full-stack systems using React, Node.js, and Python Flask microservices, with real-time agent triggering, workflow automation, and Dockerized ML backends.
- Collaborated with designers, engineers and researchers to bridge AI/ML capabilities with intuitive UX.

Research Engineer, Morphing Matter Lab, UC Berkeley Mechanical Engineering, Contract — Feb - May 2025
Product and Service Designer, Industrial and Commercial Bank of China, Internship — May - Aug 2022
Industrial Product Designer, ANTA Sports, Internship — Aug - Dec 2021
Visual and Product Designer, Nail & Hammer Creative (Guangzhou), Internship — May - Aug 2021

Teaching

UC Berkeley, INFO 213: Introduction to User Experience Design, TA — Aug 2024 - Dec 2024
UC Berkeley, DESINV 22: Prototyping and Fabrication, Lead TA — Jun 2024 - Aug 2024
UC Berkeley, INFO C262: Theory and Practice of Tangible User Interfaces, Lead TA — Aug 2023 - Dec 2023

Key Publications

Labor, Power, and Belonging: The Work of Voice in the Age of AI Reproduction. ACM FAccT 2025. Almeda et al.
Generating Visual Aids to Help Students Understand Graphic Design with EKPHRASIS. ACM CHI 2025. Wei et al.
Demonstration of Sympathetic Orchestra: An Interactive Conducting Education System... ACM UIST 2024. Wei et al.

Leadership

Tsinghua University Student Art Troupe Clavier Team, President — Aug 2020 - Aug 2022

- Organized and held large-scale concert activities and art popularization lectures.

Tsinghua University iOS Club, President of Publicity Group and Product Manager Group — Aug 2021 - Aug 2023

- 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.

Skills

AIML: LLM Integration, Prompt Engineering, Vector DBs, Semantic Search, SentenceTransformers, CLIP
Programming & Backend: Python, JavaScript, Node.js, Flask, Express.js, RESTful APIs, SQLite
Frontend: React 18, ReactFlow, TypeScript, HTML/CSS, Responsive Design, Context API
DevOps: Docker, API Integration, Cross-platform Testing, Microservices Architecture
Design Research: User Research, System Architecture, Interaction Design, Workflow Automation, Figma
Languages: English (TOEFL 110), Mandarin Chinese (Native), Japanese (Fluent)