

WEIYE XU

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EDUCATION

University of Washington (Master, Global Innovation Exchange)

Major: **Technology Innovation - Human Computer Interaction**

09/2024 - present

Dual-Degree Master of Technology Innovation (MSTI)

- HCI, Computer Science

Tsinghua University (Master, Global Innovation Exchange)

Major: **Technology Innovation - Data Science**

09/2024 - 7/2027

Dual-Degree Master of Technology Innovation (MSTI)

- Core Course: Essentials to Signal Processing and Data Management for AIoT Applications, Human Computer Interaction Technology
- GPA: 4.0/4.0

Tsinghua University (Bachelor, Department of Computer Science and Technology)

Major: **Computer Science**

09/2020 - 07/2024

Bachelor of Engineering

- Core Course: Fundamentals of Programming, Foundation of Object-Oriented Programming, Data Structures and Algorithm, Formal Languages and Automata, Introduction to Artificial Intelligence, Fundamentals of Computer Graphics, Software Engineering, Human Computer Interaction: Principles and Technologies, Digital Logic Circuit, Calculus, Linear Algebra, Discrete Mathematics, Probability and Mathematical Statistics.
- GPA: 3.73/4.0

WORKING EXPERIENCES

Ant Group

Machine Learning Engineer Intern (Advised by Changhao Zhang)

7/2025 - present

Key skills: Programming // Deep Learning // 3D Printing & Modeling // Sensor & Circuit

- Implemented a smart glasses prototype with multiple channels of fully-synchronized microphones for theoretical analysis.
- Developed a domain-adversarial-learning model as a voice authentication demo for payment on smart glasses.

AISPEECH Corporation

Software Development Engineer Intern (Advised by Feng Lu)

7/2023 – 9/2023

Key skills: Programming // DVC

- Learnt DVC system, Object Storage System, Distributed training.
- Designed an DVC system based on the existing system in AISPEECH and presented a demo.

KEY RESEARCH PROJECTS

AuthGlass: Benchmarking Voice Liveness Detection and Authentication on Smart Glasses via Comprehensive Acoustic Features

Pervasive HCI Lab (Tsinghua University)

07/2025 - 02/2026

Cooperating with **Ant Group**, Advised by Associate Prof. Yuntao Wang.

- **Leader of the team. 1st author paper under revision by IMWUT'26**
- (a) Implemented two versions of smart glasses prototype with multi-channel and fully-synchronized microphone array. (b) Collected genuine and adversarial data from 42 people and formed AuthGlass Dataset. (c) Developed domain-adversarial-learning network that achieved SOTA performance for authentication on the dataset.
- Skill set: **Python (Pytorch), Neural Network, Signal Processing**

BIT: Battery-free, IC-less and Wireless Smart Textile Interface and Sensing System

Pervasive HCI Lab (Tsinghua University), XDiscovery Lab (Simon Fraser University)

06/2023 - 11/2024

Co-advised by Associate Prof. Yuntao Wang, Xing-dong Yang and Te-yen Wu.

- **Leader of the team. 1st author paper was accepted by CHI'25. 1st inventor of one patent assigned to Florida State University.**
- (a) Independently developed the theoretical model of the resonance-based, WPT-based textile sensor system and its hardware-software resolving methods. (b) Implemented multiple prototypes: an auto-solver based on Vector Network Analyzer, multiple smart textile interfaces with various textile sensors.
- Skill set: *Python, PCB design, Auto-Embroidery.*

EOH-AR: Enabling Eyes-off-Hand Absolute Interaction in AR as the Smartphone's External Display

Pervasive HCI Lab (Tsinghua University)

01/2025 - 04/2025

Collaborating with Gonglue Jiang (VITURE), Advised by Associate Prof. Yuntao Wang.

- Cooperating with VITURE company, I created a demo using camera above the screen to track finger movements via YOLO7, and thus enable eyes-off-hand absolute interaction on smart phone for AR glasses control
- Skill set: *Python, Neural Network*

Thermotion: Design and Fabrication of Thermofluidic Composites for Animation Effects on Object Surfaces

Future Lab (Tsinghua University)

03/2022 - 9/2022

Advised by Associate Prof. Haipeng Mi.

- **2nd author paper was accepted by CHI'23. 2nd inventor of 5 patents assigned to Tsinghua University.**
- Implemented multiple prototypes: 10+ different designs of 3D model with embedded channels, a thermal simulator plugin in Grasshopper based on Finite Volume Method.
- Skill set: *C++, Grasshopper, 3D printing.*

PUBLICATIONS

- **Weiye Xu**, Zhang Jiang, Siqi Zheng, Xiyuxing Zhang, Yankai Zhao, Changhao Zhang, Jian Liu, Weiqiang Wang, and Yuntao Wang. 2026. AuthGlass: Benchmarking Voice Liveness Detection and Authentication on Smart Glasses via Comprehensive Acoustic Features (<https://arxiv.org/abs/2509.20799>, submitted to IMWUT'26).
- **Weiye Xu**, Tony Li, Yuntao Wang, Xing-dong Yang, and Te-yen Wu. 2025. BIT: Battery-less, IC-less and Wireless Smart Textile Interface and Sensing System (CHI '25, with Demonstration).
- Tianyu Yu, **Weiye Xu**, Haiqing Xu, Guanhong Liu, Chang Liu, Guanyun Wang, and Haipeng Mi. Thermotion: Design and Fabrication of Thermofluidic Composites for Animation Effects on Object Surfaces (CHI '23, with Demonstration).
- Tianyu Yu, Yige Fan, Zhixiang Zhang, Qingyu Hu, **Weiye Xu**, Haipeng Mi, and Stefanie Mueller. Thermaterial: Program Ambient Heat Transfer Behaviors on Objects through Fluidic Composites (CHI EA '24).
- Zeyu Wang, Ruotong Yu, Xiangyang Wang, Jiexin Ding, Jiankai Tang, Jun Fang, Zhe He, Zhuojun Li, Tobias Röddiger, **Weiye Xu**, Xiyuxing Zhang, huan-ang Gao, Nan Gao, Chun Yu, Yuanchun Shi and Yuntao Wang. Computing with Smart Rings: A Systematic Literature Review. (IMWUT '25).

INTERESTING PROJECTS

Color-changing and Shape-morphing Textile Decorated Lamp

ICenter (Tsinghua University)

4/2024 - 6/2024

Advised by Associate Prof. Shiguang Peng.

- Developed and fabricated a voice-controlled lamp with decorated textile petals. With SMA and thermochemical pigmented embedded in to the petal, the textile petals can imitate the blooming process of a flower with both shape and color changes
- **1st inventor of two patents assigned to Tsinghua University. Best Creation Award** in the second fabrication competition held by ICenter in Tsinghua.

TECHNICAL SKILLS

Programming Skills

- Python;
- C++, C#, JAVA, Shell command, Vue, VHDL, Arduino;



CAD tools

- 3D modeling – Grasshopper (Rhino);
- PCB drawing – AutoDesk Eagle PCB;



Fabrication and Hardware Experiments

- 3D printing, Circuit assembly, Soldering and Auto-Embroidery;



Language: English (working proficiency), Mandarin (native), Spanish (beginner);