

XUANYOU (ZED) LIU

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EDUCATION

Northwestern University

Graduate Studies in Computer Science | GPA: 3.83/4.00, Advisor: [Jessica Hullman](#)

Evanston, USA
Sep 2025 – Present

- **Research Focus:** Technical HCI, Human-AI Interaction
- **Honors:** TGS First-Year Fellowship

University of Pennsylvania

M.S.E. in Robotics | GPA: 4.00/4.00, Advisor: [Michelle Johnson](#)

Philadelphia, USA
Sep 2023 – May 2025

- **Honors:** GAPSA Professional Student Travel Award (2025)

Xi'an Jiaotong University

B.E. in Industrial Design | GPA: 3.86/4.30, Advisor: [Teng Han](#)

Xi'an, China
Sep 2019 – Jul 2023

- **Exchange:** University of Pennsylvania, International Guest Student Program (Fall 2021, full scholarship)
- **Honors:** Outstanding Graduate, Outstanding Student Leader, Outstanding Student, Undergrad Research Scholarship

PUBLICATIONS

Integrating Wrist EIT Gesture Sensing into Smartwatch Hardware

UIST 2026

- [Xuanyou Liu](#), Novel Alam, Karan Ahuja (under review)
- ACM Symposium on User Interface Software and Technology (UIST)

How Arm Posture Affects Wrist EIT Hand Sensing

IMWUT 2026

- [Xuanyou Liu](#), Suril Mehta, Jessie Sheflin, Chenfeng Gao, Karan Ahuja (under review)
- Proceedings of the ACM on Interactive, Mobile, Wearable and Ubiquitous Technologies (IMWUT)

MARIO: Motion-Augmented Real-Time Multi-Sensor Inertial Odometry

CVPR 2026 Findings

- Yiquan Li, Taeyoung Yeon, Chenfeng Gao, Vasco Xu, [Xuanyou Liu](#), Karan Ahuja
- Findings of the IEEE/CVF Conference on Computer Vision and Pattern Recognition (CVPR) [↗](#)

Seeing with the Hands: A Sensory Substitution That Supports Manual Interactions

CHI 2025

- Shan-Yuan Teng*, Gene Kim*, [Xuanyou Liu*](#), Pedro Lopez (*equal contribution)
- Conference on Human Factors in Computing Systems (CHI) [↗](#)

TacTex: A Textile Interface with Seamlessly-Integrated Electrodes

CHI 2024

- Hongnan Lin, [Xuanyou Liu](#), Shengsheng Jiang, Qi Wang, Ye Tao, et al.
- Conference on Human Factors in Computing Systems (CHI) [↗](#)

PROJECTS

Decision Making for Multi-Agent AI Systems | Northwestern University

Mar 2026 – Present

- Built a decision-theoretic framework for multi-agent coordination, improving action selection under uncertainty.
- Developed statistical methods for uncertainty quantification, enabling reliable evaluation of system performance.

Electrical Impedance Tomography for Hand Pose Estimation | Northwestern University

Sep 2025 – Present

- Proposed a contrastive learning approach that significantly improved cross-posture and cross-user generalization.
- Designed compact EIT sensing hardware for smartwatch-form-factor integration.

Electrotactile Module for Wearable Haptics | UPenn & UChicago

May 2021 – Dec 2024

- Developed a miniaturized electrotactile stimulation module for high-fidelity haptic feedback in wearables.
- Explored electrotactile-textile integration, VR interaction, and sensory substitution for the visually impaired.

INTERNSHIP

Luxottica Tristar Optical Co., Ltd.

Dongguan, China

R&D Intern, Component Factory

Jul 2020 – Sep 2020

- Enhanced lost-wax casting processes by optimizing temperature parameters, reducing defect rate by 15%.
- Refactored Ladder Logic code for the production line PLC, improving cycle time efficiency.

SKILLS & SERVICE

Academic Service: Reviewer (IMWUT 2026, UIST 2026), UNICEF Representative, ILO Volunteer

Teaching: Teaching Assistant (ESE5190 Smart Devices), Code Instructor (Fife-Penn CS Academy)

Skills: HCI, Decision Theory, Statistics, Haptics, Robotics, PCB Design, Python, C++, PyTorch, MATLAB