

# XUANYOU (ZED) LIU

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## EDUCATION

### Northwestern University

Ph.D. in Computer Science | Advisor: Karan Ahuja

Evanston, USA  
Sep 2025 – 2030 (expected)

- **Research Focus:** Human Computer Interaction (HCI)
- **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, Rank: 1/21

Xi'an, China  
Sep 2019 – Jul 2023

- **Honors:** Outstanding Graduate, Outstanding Student Leader

## SELECTED PUBLICATIONS

### Arm Posture Matters: First Characterization of the Limb Position Effect in EIT-Based Hand Pose Estimation IMWUT 2026

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

### 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

### Robust EIT for Hand Tracking with Contrastive Learning | Northwestern University Sep 2025 – Present

- Built a transformer-based contrastive learning model to enable continuous hand pose tracking across users and arm poses.
- Designed a compact PCB and implemented real-time firmware using RTOS for high-frequency bio-impedance sensing.

### Compact Electrotactile Module for Wearable Haptics | UPenn Independent Study Aug 2024 – Dec 2024

- Developed a miniaturized electrotactile stimulation module for high-fidelity haptic feedback in wearables.
- Designed custom PCB and firmware for real-time control and integration with VR environments.

### Ins-Bucks Food 3D Printer | RCA-Imperial Design Competition Jun 2021 – Jul 2021

- Designed an insect-based 3D food printing service ecosystem integrating hardware, UI, and service blueprints.
- Received **Most Innovative Award** for the novel application of sustainable protein in personalized nutrition.

## EXPERIENCE

### Luxottica Tristar Optical Co., Ltd.

R&D Intern, Component Factory

Dongguan, China  
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 & LEADERSHIP

**Leadership:** Teaching Assistant (Smart Devices), UNICEF Volunteer, Code Instructor (Fife-Penn)

**Skills:** HCI, Haptics, Robotics, PCB Design, CAD (SolidWorks), Python, C++, MATLAB, LaTeX