Xuanyou (Zed) Liu

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Education

Northwestern University — *Evanston, USA*
Ph.D. in Computer Science | Advisor: Prof. Karan Ahuja — *Sep 2025 – 2030 (expected)*

- **Research Focus:** Human Computer Interaction (HCI)
- **Honors:** TGS First-Year Fellowship

University of Pennsylvania — *Philadelphia, USA*
M.S.E. in Robotics | GPA: 4.00/4.00, Rank: 1/64 — *Sep 2023 – May 2025*

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

Xi'an Jiaotong University — *Xi'an, China*
B.E. in Industrial Design | GPA: 3.86/4.30, Rank: 1/21 — *Sep 2019 – Jul 2023*

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

Selected Publications

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. — *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 & Leadership

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

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