Yifan Li

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Introduction

I am a first year PhD student advised by Prof. Yoshihiro KAWAHARA at The University of Tokyo. I'm interested in wearable devices, human-computer interaction, and rock music.

Education

PhD **The University of Tokyo**, Electrical Engineering and Information Systems — Sept 2025 – Present
- Advisor:Prof. Yoshihiro Kawahara

MS **The University of Tokyo**, Electrical Engineering and Information Systems — Oct 2023 – Sept 2025
- Thesis: Ultra-low-powered wireless input ring and machine-knittable plug-and-play e-textiles

BS **University of Glasgow**, Electronics and Electrical Engineering — Sept 2019 – Sept 2023
- Honours of the **First** Class
- Thesis: Research and Implementation of Federated Learning Algorithms for Non-shared(Non-IID) Data Scenarios

Projects

picoRing *mouse* — github.com/picoRingmouse/repo
- Developed an ultra-low-powered (µW-level) tiny mouse ring which support subtle thumb-to-index scrolling and pressing interactions in real-world wearable computing situations.
- Tools Used: C, Python, PyQt, electrical RF circuit design and measurement.

Plug-and-Play e-knit — github.com/Plug-and-Play-e-knit/repo
- Developed plug-n-play e-knit, a large-scale, reconfigurable, scalable e-textile prototyping tool, compressing the machine-knitted textile-based communication and power supply network for sensing modules on the textiles and the soft magnet connector to rearrange these modules to the textile.
- Tools Used: C, Python, PyQt, electrical circuit design and prototyping.

Publications

[UIST' 25] Ultra-low-power ring-based wireless mouse — **UIST** 2025

Y. Li, M. Fukumoto, M. Kari, S. Ishida, A. Noda, T. Yokota, T. Someya, Y. Kawahara, R. Takahashi

10.1145/3746059.3747615

[TEI' 25] Plug-n-play e-knit: prototyping large-area e-textiles using machine-knitted magnetically-repositionable sensor networks — **TEI** 2025

Y. Li, R. Takahashi, W. Yukita, K. Matsutani, C. Caremel, Y. Iwamoto, S. Lee, T. Yokota, T. Someya, Y. Kawahara

10.1145/3689050.3705973

[CHI EA' 25] Demo of picoRing mouse: ultra-low-powered wireless mouse ring with ring-to-wristband coil-based impedance sensing **CHI EA** 2025

Y. Li, M. Fukumoto, M. Kari, T. Yokota, T. Someya, Y. Kawahara, R. Takahashi

10.1145/3706599.3721183

Awards

The University of Tokyo Fellowship Oct 2023

Outstanding student award with grant-in-aid (~33000 USD) from The University of Tokyo

Best Master's Thesis Sept 2025

Outstanding master thesis award from The University of Tokyo

World-leading Innovative Graduate Study Program "Co-designing Future Society" Apr 2024

UTokyo's high-level research education program with financial support (~30000 USD)

Best Bachelor's Degree Thesis. Sept 2023

Outstanding bachelor thesis award from The University of Glasgow

Skills

Key words: Wearable computing, Sensing, Ubiquitous computing, UIST

Language

- Chinese: Native
- English: Fluent, IELTS: 7.5
- Japanese: Intermediate

Hardware

- Electrical circuit design: Ultra-low-power circuits, RF circuits for wireless power transfer and inductive sensing, sensing circuits, etc., designed for mass production.
- RF measurements: Vector network analyzer, impedance analyzer, impedance matching, frequency response analyzer, etc.
- Embedded Programming: Programming embedded systems (ARM, HAL).

Software

- CAD tools: Autodesk EAGLE, Altium Designer, Kicad, Autodesk Fusion, etc.
- Programming languages: C, Python, MATLAB, etc.
- Computer vision: Experience in implementing Visual SLAM using OpenCV.
- Simulation: Experience in MATLAB, LTSpice, Ansys HFSS, etc.
- Others: Experience in: Adobe CC (Illustrator, Photoshop, Premiere), MS Office (Excel, PowerPoint, Word).