# Tony Li

Stony Brook, NY | haolili@cs.stonybrook.edu | lhl08.github.io | Google Scholar | U.S. Citizen

## Education

08/2024–Present **Ph.D., Computer Science**
Stony Brook University, Stony Brook, NY
**Focus:** Human-AI Interaction, Generative AI, LLM Agents
**Advisor:** Xiaojun Bi

08/2020–06/2024 **B.Eng., Computer Science and Technology**
University of Science and Technology of China, Hefei, China

## Publications

CHI'26 **Li, Tony**, Ma, Y., Li, Z., Yu, C., Ramakrishnan, I., and Bi, X. Keysense: Llm-powered hands-down, ten-finger typing on commodity touchscreens. In *Proceedings of the 2026 CHI Conference on Human Factors in Computing Systems* (2026), pp. 1–16

CHI'25 Xu, W., **Li, Tony**, Wang, Y., Yang, X.-D., and Wu, T.-Y. Bit: Battery-free, ic-less and wireless smart textile interface and sensing system. In *Proceedings of the 2025 CHI Conference on Human Factors in Computing Systems* (2025), pp. 1–18

VRW'25 Ma, Y., **Li, Tony**, Li, Z., and Bi, X. Llm-powered text entry in virtual reality. In *2025 IEEE Conference on Virtual Reality and 3D User Interfaces Abstracts and Workshops (VRW)* (2025), IEEE, pp. 1628–1629

CHI EA'25 Xu, W., **Li, Tony**, Wang, Y., Yang, X.-D., and Wu, T.-Y. Demonstrating bit: Battery-free, ic-less and wireless smart textile interface and sensing system. In *Proceedings of the Extended Abstracts of the CHI Conference on Human Factors in Computing Systems* (2025), pp. 1–5

## Experience

08/2024–Present Graduate Research Assistant, **Advisor**: Xiaojun Bi, Stony Brook University

- Developed LLM-powered decoding systems for mobile and VR text entry, enabling hands-down ten-finger typing and gesture-based input without additional hardware.

- Fine-tuned FLAN-T5 models on large-scale synthetic and real noisy-to-clean pairs, achieving substantial gains over Bayesian baselines (CHI 2026).

- Investigating scalable and compressed LLM decoders for on-device deployment through architecture ablations, data scaling, and distillation.

- Built a Unity-based VR prototype on Meta Quest Pro integrating tap typing and word-gesture typing with a cloud-deployed LLM decoder.

07/2023–04/2024 Research Intern, **Advisor**: Xing-Dong Yang, Simon Fraser University

- Embedded all-textile haptics with SMA material for higher reading rate, parallel computing, and sensitive sensing in textile sensor systems.

- Proposed and evaluated design tools for prototyping all-textile and environmentally friendly haptic systems.

- Developed a textile sensing interface that eliminates ICs, wires and batteries, enabling wireless power transfer and data acquisition on multi-sensor textile circuits.

01/2024–03/2024 Research Intern, **Advisor**: Liang He, Purdue University

- Designed tool guide for 3D printing driven tufting dolls with lattice and guiding marks generation algorithms.

## Skills

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| Programming | C, C++, Python, Java, Verilog HDL, Assembly, SQL, Shell Script |
| Frameworks | PyTorch, TensorFlow, Android Studio, Django, Flask, Unity |
| Tools | MySQL, MongoDB, AR/VR Development Tools, 3D Printing, Matlab |
| Hardware | FPGA/Verilog, Near-field wireless power & data transfer |
| Fabrication | Circuit Soldering, Sewing Programming (e-textile fabrication), Textile Weaving |
| Languages | English, Mandarin |

## Selected Awards

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| 2026 | Travel Grant to CHI 2026, Barcelona, Spain |
| 2025 | Travel Grant to IEEE VR 2025, Saint Malo, France |
| 2024 | USTC Outstanding Undergraduate Thesis Award |
| 2022 | USTC Silver Scholarship |
| 2022 | Second Prize, The China Mathematics Competitions |
| 2021 | Wang Xiaomo Talent Program Scholarship, USTC |

## Teaching

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| Spring 2025 | Teaching Assistant, CSE 334: Introduction to Multimedia Systems |
| Fall 2024 | Teaching Assistant, CSE 333: User Interface Development |