# Yingtian Shi

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## EDUCATION

**Georgia Institute of Technology** Aug 2024

Computer Science Doctor

Advisor: Prof. Thomas Ploetz

**Tsinghua University** Sep 2020 - Aug 2023

Master student in Computer Science and Technology

Advisor: Prof. Yuanchun Shi

**Tsinghua University** Aug 2017 - Jun 2020

Bachelor of Management in Business management

**Tsinghua University** Aug 2016 - Jun 2020

Bachelor of Engineering in Computer Science and Technology

## PROFESSIONAL EXPERIENCE

**Tsinghua HCI lab - Research Assistant** Sep 2023 - Present

Working on evolvable AI model in construction site safety management.

**Stanford Interactive Design (IxD) lab - Research Intern** Jun 2023 - Sep 2023

Working on LLMs based programming framework for multimodal applications development.

## PUBLICATIONS

- Yukang Yan, Haohua Liu, ***Yingtian Shi***, Jingying Wang, Ruici Guo, Zisu Li, Chun Yu, Xuhai Xu, Yuntao Wang, Yuanchun Shi.

  ConeSpeech: Exploring Directional Speech Interaction for Multi-Person Remote Communication in VR

  TVCG 2023 – IEEE Transactions on Visualization and Computer Graphics **(Best Paper Honorable Mention Award)**
- Yueting Weng, Chun Yu, ***Yingtian Shi***, Yuhang Zhao, Yukang Yan, and Yuanchun Shi.

  FaceSight: Enabling Hand-to-Face Gesture Interaction on AR Glasses with a Downward-Facing Camera Vision

  CHI 2021 – 2021 ACM CHI Conference on Human Factors in Computing Systems
- Yukang Yan*, ***Yingtian Shi****, Chun Yu, and Yuanchun Shi. *Equally contributed.

  HeadCross: Exploring Head-Based Crossing Selection on Head-Mounted Displays

  IMWUT 2020 – Proceedings of the ACM on Interactive, Mobile, Wearable and Ubiquitous Technologies
- Yukang Yan, Chun Yu, ***Yingtian Shi***, and Xie Mingxing.

  PrivateTalk: Activating Voice Input with Hand-On-Mouth Gesture Detected by Bluetooth Earphones

  UIST 2019 – 32nd Annual ACM Symposium on User Interface Software and Technology
- Xiaoyi Liu*, **Yingtian Shi***, Chun Yu, Cheng Gao, Tianao Yang, Chen Liang, and Yuanchun Shi. *Equally contributed.

  Understanding In-Situ Programming for Smart Home Automation

  IMWUT 2023 – Proceedings of the ACM on Interactive, Mobile, Wearable and Ubiquitous Technologies

- Jackie (Junrui) Yang, **Yingtian Shi**, Yuhan Zhang, Karina Li, Daniel Wan Rosli, Anisha Jain, Shuning Zhang, Tianshi Li, Monica S. Lam, and James A. Landay

  ReactGenie: A Development Framework for Complex Multimodal Interactions Using Large Language Models

  CHI 2024 – 2024 ACM CHI Conference on Human Factors in Computing Systems

## RESEARCH EXPERIENCE

**ReactGenie : Programming framework for multimodal applications** Jul 2023 - Present

- The project designed a programming framework for developer to easily built a multimodal application. The framework is based on the LLMs, which can transfer users' complex commands into function call and display the results with UI predefined by developers. Besides, ReactGenie simulated interactions from human user and give out advices for building better applications.

**Aware Lab: Understand and implement in-situ multi-modal smart home automation programming** Sep 2021 - Present

- This project proposed in-situ programming (ISP) as a novel programming paradigm for AIoT automation that extensively leverages users' natural in-situ interaction with the smart environment. We modeled the behavior of users under the ISP paradigm and designed an overall multi-modal automatic programming system.

**ConeSpeech: Exploring Directional Speech Interaction for Multi-Person Remote Communication in Virtual Reality** Sep 2020 - May 2021

- This project proposed a virtual reality (VR) based multi-user remote communication technique, which enables users to selectively speak to target listeners without distracting bystanders. With ConeSpeech, the user looks at the target listener and only in a cone-shaped area in the direction can the listeners hear the speech.

**FaceSight: Enabling Hand-to-Face Gesture Interaction on AR Glasses with a Downward-Facing Camera Vision** Mar 2020 - Sep 2020

- This project proposed a computer vision-based sensing technique to support rich hand-to-face gesture interaction on AR glasses.

**PrivateTalk: Activating Voice Input with Hand-On-Mouth Gesture Detected by Bluetooth Earphones** Feb 2019 - May 2019

- This project proposed an on-body interaction technique that allows users to activate voice input by performing the Hand-On-Mouth gesture during speaking. The gesture is performed as a hand partially covering the mouth from one side.

**HeadCross: Exploring Head-Based Crossing Selection on Head-Mounted Displays** Sep 2018 - Nov 2019

- The project proposed a head-based interaction method to select targets on VR and AR head-mounted displays (HMD). Using HeadCross, users control the pointer with head movements and to select a target, users move the pointer into the target and then back across the target boundary.

## HONORS & AWARDS

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| Best Paper Honorable Mention Award | IEEE VR 2023 |
| Comprehensive Scholarship | Tsinghua University 2021-2022 |
| Social Work Excellence Award | Tsinghua University 2018-2019 |
| Social Work Excellence Award | Tsinghua University 2016-2017 |
| Volunteer Public Welfare Excellence Award | Tsinghua University 2016-2017 |