

KE LI

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EDUCATION

Cornell University Jul. 2021 - May 2027 (Expected)

Ph.D. Candidate at [SciFi Lab](#) in Information Science, College of Computing and Information Science

- **Advisor:** Prof. [Cheng Zhang](#), **Committee Members:** Profs. [Deborah Estrin](#) and [Rajalakshmi Nandakumar](#)
- **Concentration:** Ubiquitous Computing, Wearable Devices, Human-Computer Interaction, Artificial Intelligence
- **Minor:** Computer Science

Cornell University Jul. 2021 - Dec. 2024

M.S. in Information Science, College of Computing and Information Science

Shanghai Jiao Tong University (SJTU) Sept. 2016 - Jul. 2020

B.S. in Information Engineering, School of Electronic Information and Electrical Engineering

- **Overall GPA:** 91.41/100 (Rank **3/158**)
- Outstanding Graduate from Universities in Shanghai (**Top 5%**)

WORK EXPERIENCES

Google May 2026 - Aug. 2026

Research Intern in the domain of multimodal sensing foundation research

Meta Aug. 2025 - Dec. 2025

Research Intern in computer vision, machine learning, sensor fusion, and HCI software and hardware development

Carnegie Mellon University (CMU) Jul. 2019 - Sept. 2019

Research Assistant in Department of Electrical and Computer Engineering, Supervisor: Prof. [Swarun Kumar](#)

PUBLICATIONS

[Head and Body Pose Estimation using Ultrasound Sensing on Smart Glasses](#). **Ke Li**, Robin Kips, Filippo Arcadu, Marek Schikora, John Ho, Chris Graf, Jim Chen, Xingxing Cai, Gawsalyan Sivapalan, Ariyan Zarei, and Yan Deblangey. In *Extended Abstracts of the 2026 CHI Conference on Human Factors in Computing Systems (CHI EA '26)*, 6 pages. Barcelona, Spain
Apr. 2026

[µTouch: Enabling Accurate, Lightweight Self-Touch Sensing with Passive Magnets](#). Siyuan Wang, **Ke Li**, Jingyuan Huang, Jike Wang, Cheng Zhang, Alanson P. Sample, and Dongyao Chen. (Accepted for publication at *PerCom '26*) Pisa, Italy
Mar. 2026

[SonicID: User Identification on Smart Glasses with Acoustic Sensing](#). **Ke Li**, Devansh Agarwal, Ruidong Zhang, Vipin Gunda, Tianjun Mo, Saif Mahmud, Boao Chen, François Guimbretière, and Cheng Zhang. *Proc. ACM Interact. Mob. Wearable Ubiquitous Technol. (IMWUT '24)* 8, 4, Article 169, 27 pages. Nov. 2024

[ActSonic: Recognizing Everyday Activities from Inaudible Acoustic Wave Around the Body](#). Saif Mahmud, Vineet A Parikh, Qikang Liang, **Ke Li**, Ruidong Zhang, Ashwin Ajit, Vipin Gunda, Devansh Agarwal, François Guimbretière, and Cheng Zhang. *Proc. ACM Interact. Mob. Wearable Ubiquitous Technol. (IMWUT '24)* 8, 4, Article 183, 32 pages. Nov. 2024

[Ring-a-Pose: A Ring for Continuous Hand Pose Tracking](#). Tianhong Catherine Yu, Guilin Hu, Ruidong Zhang, Hyunchul Lim, Saif Mahmud, Chi-Jung Lee, **Ke Li**, Devansh Agarwal, Shuyang Nie, Jinseok Oh, François Guimbretière, and Cheng Zhang. *Proc. ACM Interact. Mob. Wearable Ubiquitous Technol. (IMWUT '24)* 8, 4, Article 189, 30 pages. Nov. 2024

- [EchoGuide: Active Acoustic Guidance for LLM-Based Eating Event Analysis from Egocentric Videos.](#) Vineet Parikh, Saif Mahmud, Devansh Agarwal, **Ke Li**, François Guimbretière, and Cheng Zhang. In *Proceedings of the 2024 ACM International Symposium on Wearable Computers (ISWC '24)*, 40–47. **Best Paper Honorable Mention Award** Melbourne, Australia Oct. 2024
- [AI-Powered Eyewear for Routine Facial Expression Analysis in Parkinson's Disease: Study Design and Goals.](#) Hwai Yin Ooi, Cheng Zhang, **Ke Li**, Jordan Narins, and Harini Sarva. *The International Congress of Parkinson's Disease and Movement Disorders*, 39 (suppl 1). Sept. 2024
- [GazeTrak: Exploring Acoustic-based Eye Tracking on a Glass Frame.](#) **Ke Li**, Ruidong Zhang, Boao Chen, Siyuan Chen, Sicheng Yin, Saif Mahmud, Qikang Liang, François Guimbretière, and Cheng Zhang. In *Proceedings of the 30th Annual International Conference on Mobile Computing and Networking (ACM MobiCom '24)*, 497–512. D.C., USA Nov. 2024
- [EyeEcho: Continuous and Low-power Facial Expression Tracking on Glasses.](#) **Ke Li**, Ruidong Zhang, Siyuan Chen, Boao Chen, Mose Sakashita, François Guimbretière, and Cheng Zhang. In *Proceedings of the 2024 CHI Conference on Human Factors in Computing Systems (CHI '24)*, Article 319, 1–24. Honolulu, USA May 2024
- [EchoWrist: Continuous Hand Pose Tracking and Hand-Object Interaction Recognition Using Low-Power Active Acoustic Sensing On a Wristband.](#) Chi-Jung Lee, Ruidong Zhang, Devansh Agarwal, Tianhong Catherine Yu, Vipin Gunda, Oliver Lopez, James Kim, Sicheng Yin, Boao Dong, **Ke Li**, Mose Sakashita, François Guimbretière, and Cheng Zhang. In *Proceedings of the 2024 CHI Conference on Human Factors in Computing Systems (CHI '24)*, Article 403, 1–21. Honolulu, USA May 2024
- [HPSpeech: Silent Speech Interface for Commodity Headphones.](#) Ruidong Zhang, Hao Chen, Devansh Agarwal, Richard Jin, **Ke Li**, François Guimbretière, and Cheng Zhang. In *Proceedings of the 2023 ACM International Symposium on Wearable Computers (ISWC '23)*, 60–65. **Best Paper Honorable Mention Award** Cancún, Mexico Oct. 2023
- [EchoNose: Sensing Mouth, Breathing and Tongue Gestures inside Oral Cavity using a Non-contact Nose Interface.](#) Rujia Sun, Xiaohe Zhou, Benjamin Steeper, Ruidong Zhang, Sicheng Yin, **Ke Li**, Shengzhang Wu, Sam Tilsen, François Guimbretière, and Cheng Zhang. In *Proceedings of the 2023 ACM International Symposium on Wearable Computers (ISWC '23)*, 22–26. Cancún, Mexico Oct. 2023
- [PoseSonic: 3D Upper Body Pose Estimation Through Egocentric Acoustic Sensing on Smartglasses.](#) Saif Mahmud, **Ke Li**, Guilin Hu, Hao Chen, Richard Jin, Ruidong Zhang, François Guimbretière, and Cheng Zhang. *Proc. ACM Interact. Mob. Wearable Ubiquitous Technol. (IMWUT '23)* 7, 3, Article 111, 28 pages. Sept. 2023
- [EchoSpeech: Continuous Silent Speech Recognition on Minimally-obtrusive Eyewear Powered by Acoustic Sensing.](#) Ruidong Zhang, **Ke Li**, Yihong Hao, Yufan Wang, Zhengnan Lai, François Guimbretière, and Cheng Zhang. In *Proceedings of the 2023 CHI Conference on Human Factors in Computing Systems (CHI '23)*, Article 852, 1–18. Hamburg, Germany Apr. 2023
- [EarIO: A Low-power Acoustic Sensing Earable for Continuously Tracking Detailed Facial Movements.](#) **Ke Li**, Ruidong Zhang, Bo Liang, François Guimbretière, and Cheng Zhang. *Proc. ACM Interact. Mob. Wearable Ubiquitous Technol. (IMWUT '22)* 6, 2, Article 62, 24 pages. Jul. 2022
- [Locating Everyday Objects using NFC Textiles.](#) Jingxian Wang, Junbo Zhang, **Ke Li**, Chengfeng Pan, Carmel Majidi, and Swarun Kumar. In *Proceedings of the 20th International Conference on Information Processing in Sensor Networks (IPSN '21)*, 15–30. **Best Paper Award & Best Presentation Award** Nashville, USA May 2021

- [**A Constant Factor Approximation for \$d\$ -Hop Connected Dominating Set in 3-Dimensional Wireless Network.**](#) **Ke Li**, Xiaofeng Gao, Fan Wu, and Guihai Chen. In *IEEE Transactions on Wireless Communications (TWC)*, vol. 18, no. 9, pp. 4357-4367, Sept. 2019. Sept. 2019
- [**QLEC: A Machine-Learning-Based Energy-Efficient Clustering Algorithm to Prolong Network Lifespan for IoT in High-Dimensional Space.**](#) **Ke Li**, Haowei Huang, Xiaofeng Gao, Fan Wu, and Guihai Chen. In *Proceedings of the 48th International Conference on Parallel Processing (ICPP '19)*, Article 105, 1–10. Kyoto, Japan
Aug. 2019

PATENTS

- [**US20240212388A1: Wearable Devices to Determine Facial Outputs using Acoustic Sensing.**](#) **Ke Li**, Cheng Zhang, Francois Guimbretiere, Ruidong Zhang.
- [**US12400473B2: Wearable Facial Movement Tracking Devices.**](#) Cheng Zhang, Tuochao Chen, Benjamin Steeper, Francois Guimbretiere, **Ke Li**, Ruidong Zhang, Hyunchul Lim.

HONORS & AWARDS

- Qualcomm Innovation Fellowship 2024** Apr. 2024
Fellowship focused on recognizing, rewarding, and mentoring PhD students based on Qualcomm's core values of innovation, execution, and teamwork
- Nominated for a 2021-2022 Outstanding Teaching Award** May 2022
Honor bestowed on outstanding PhD teaching assistants in Information Science at Cornell
- Outstanding Graduate in Shanghai (Top 5%)** Jun. 2020
Honor bestowed on outstanding graduates from universities in Shanghai
- A-level Outstanding Scholarship of Shanghai Jiao Tong University (Top 1%)** Nov. 2019
Scholarship awarded to outstanding students at SJTU
- Tang Lixin Scholarship (Top 0.2%)** Oct. 2019
Scholarship founded by Mr. Tang Lixin and awarded to Top 60 students at SJTU
- National Scholarship*2 (3/158, 1/158)** Oct. 2018, 2019
Top scholarship awarded to undergraduates in China for their achievements in academics
- B-level Outstanding Scholarship of Shanghai Jiao Tong University*2 (Top 5%, Top 2%)** Nov. 2017, 2018
Scholarship awarded to outstanding students at SJTU
- Wen-Yuan Pan Scholarship (Top 5%)** Dec. 2017
Scholarship founded by Wen-Yuan Pan Foundation

SERVICE

- External Reviewer** 2022 - Present
UbiComp '22 '23 '24 '25 '26, UIST '23 '26, CHI '24 '25 '26

TEACHING EXPERIENCES

- INFO 4100/5101: Learning Analytics** Spring '26
Teaching Assistant at Cornell University, Instructor: Prof. Rene Kizilcec
- INFO 2951: Introduction to Data Science with R** Spring '25
Teaching Assistant at Cornell University, Instructor: Prof. Benjamin Soltoff
- INFO 4320/5321: Introduction to Rapid Prototyping and Physical Computing** Fall '22 '23, Spring '23
Teaching Assistant at Cornell University, Instructor: Prof. Cheng Zhang

INFO 4120/6120: Ubiquitous Computing (*Nominated for Outstanding Teaching Award*)

Fall '21

Teaching Assistant at Cornell University, Instructor: Prof. Cheng Zhang

EXTRACURRICULAR ACTIVITIES & LEADERSHIP

Development Program for Excellent Student of SJTU, Group Leader Apr. 2017 – Apr. 2018

- Organized various activities, such as lectures, speech contests, volunteer programs, and summer social activities.
- Awarded Outstanding Participant Title in the 2018 Summer Social Practice of SJTU (Top 2%).

Master Distinguished Lecture, SJTU, Director May. 2017 - Sept. 2018

- Organized professional academic lectures and invited scholars for speeches, including 8 Nobel Prize Laureates.
- Oversaw the entire process of lecture, including brand building, publicity, directing, reception and recognition.