KE LI

Cornell University, 107 Hoy Rd, Ithaca, NY 14853 | kl975@cornell.edu | keli97.github.io

EDUCATION

Cornell University   Jul. 2021 - Aug. 2026 (Expected)

Ph.D. Candidate at SciFi Lab in Information Science, College of Computing and Information Science

- **Advisor**: Prof. Cheng Zhang, **Special Committee Member**: Prof. Deborah Estrin and Prof. Rajalakshmi Nandakumar
- **Concentration**: Ubiquitous Computing, Sensing Systems, Wearable Devices, and Artificial Intelligence

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 Graduates from Universities in Shanghai **(Top 5%)**

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

Research Assistant in Department of Electrical and Computer Engineering, Supervisor: Prof. Swarun Kumar

PUBLICATIONS

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). (Accepted Pending Minor Revisions)*	Oct. 2025 (Expected)
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). (Accepted Pending Minor Revisions)*	Oct. 2025 (Expected)
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). (Accepted Pending Minor Revisions)*	Oct. 2025 (Expected)
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
μTouch: Enabling Accurate, Lightweight Micro Hand Gesture Sensing with Passive Magnets. Siyuan Wang, **Ke Li**, Jike Wang, Jingyuan Huang, Cheng Zhang, Alanson P. Sample, and Dongyao Chen. *The 31st Annual International Conference on Mobile Computing and Networking (MobiCom '25). (Under Review)*	Nov. 2025 (Expected)

SERVICE

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

TEACHING EXPERIENCES

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

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 Graduates 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

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.