KE LI

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EDUCATION

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

Ph.D. Student 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, <u>**Ke Li**</u>, Devansh Agarwal, Ruidong Zhang, Vipin Gunda, Tianjun Mo, Saif Mahmud, Boao Chen, François Guimbretière, and Cheng Zhang, The Proceedings of the ACM on Interactive, Mobile, Wearable and Ubiquitous Technologies (IMWUT)/Ubicomp '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, <u>**Ke Li**</u>, Ruidong Zhang, Ashwin Ajit, Vipin Gunda, Devansh Agarwal, François Guimbretière, and Cheng Zhang, The Proceedings of the ACM on Interactive, Mobile, Wearable and Ubiquitous Technologies (IMWUT)/Ubicomp '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, <u>**Ke Li**</u>, Devansh Agarwal, Shuyang Nie, Jinseok Oh, François Guimbretière, and Cheng Zhang, The Proceedings of the ACM on Interactive, Mobile, Wearable and Ubiquitous Technologies (IMWUT)/Ubicomp '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, <u>**Ke Li**</u>, François Guimbretière, and Cheng Zhang, The Proceedings of the International Symposium on Wearable Computers (ISWC '24), 40-47.	Melbourne, Australia Oct. 2024
GazeTrak: Exploring Acoustic-based Eye Tracking on a Glass Frame, <u>**Ke Li**</u>, Ruidong Zhang, Boao Chen, Siyuan Chen, Sicheng Yin, Saif Mahmud, Qikang Liang, François Guimbretière, and Cheng Zhang, The Annual International Conference on Mobile Computing and Networking (MobiCom '24).	D.C., USA Nov. 2024
EyeEcho: Continuous and Low-power Facial Expression Tracking on Glasses, <u>**Ke Li**</u>, Ruidong Zhang, Siyuan Chen, Boao Chen, Mose Sakashita, François Guimbretière, and Cheng Zhang, The Proceedings of the CHI Conference on Human Factors in Computing Systems (CHI '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	Honolulu, USA May 2024

Agarwal, Tianhong Catherine Yu, Vipin Gunda, Oliver Lopez, James Kim, Sicheng Yin, Boao Dong, **Ke Li**, Mose Sakashita, François Guimbretière, and Cheng Zhang, The Proceedings of the CHI Conference on Human Factors in Computing Systems (CHI '24).

[**HPSpeech: Silent Speech Interface for Commodity Headphones**](#), Ruidong Zhang, Hao Chen, Devansh Agarwal, Richard Jin, **Ke Li**, François Guimbretière, and Cheng Zhang, The Proceedings of the 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, The Proceedings of the 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, The Proceedings of the ACM on Interactive, Mobile, Wearable and Ubiquitous Technologies (IMWUT)/Ubicomp '23, Volume 7, Issue 3, Article 111 (September 2023), 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, The Proceedings of the 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, The Proceedings of the ACM on Interactive, Mobile, Wearable and Ubiquitous Technologies (IMWUT)/Ubicomp '22, Volume 6, Issue 2, Article 62 (July 2022), 24 pages.
 Jul. 2022

[**Locating Everyday Objects using NFC Textiles**](#), Jingxian Wang, Junbo Zhang, **Ke Li**, Chengfeng Pan, Carmel Majidi and Swarun Kumar, The 20th International Conference on Information Processing in Sensor Networks (IPSN '21). ***Best Paper & 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, IEEE Transactions on Wireless Communications (TWC), vol. 18, no. 9, pp. 4357-4367, 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, The 48th International Conference on Parallel Processing (ICPP '19).
 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 Annual International Conference on Mobile Computing and Networking (MobiCom '25). *(Under Review)*
 Nov. 2025
 (Expected)

SERVICE

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

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.