

KE LI

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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)* 8, 4, Article 169, 28 pages. (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)* 8, 4, Article 183, 32 pages. (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)* 8, 4, Article 189, 30 pages. (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
- [OLEC: 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
- [\$\mu\$ Touch: 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

2022 - Present

UbiComp '22 '23 '24, UIST '23, CHI '24 '25

TEACHING EXPERIENCES

INFO 4320/5321: Introduction to Rapid Prototyping and Physical Computing	Fall '22 '23, Spring '23
<i>Teaching Assistant at Cornell University, Instructor: Prof. Cheng Zhang</i>	
INFO 4120/6120: Ubiquitous Computing (Nominated for Outstanding Teaching Award)	Fall '21
<i>Teaching Assistant at Cornell University, Instructor: Prof. Cheng Zhang</i>	

HONORS & AWARDS

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

EXTRACURRICULAR ACTIVITIES & LEADERSHIP

Development Program for Excellent Student of SJTU, Group Leader	Apr. 2017 – Apr. 2018
<ul style="list-style-type: none">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
<ul style="list-style-type: none">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.	