

RUIDONG ZHANG

Cornell University ◊ 107 Hoy Rd, 239 Gates Hall, Ithaca, New York, USA, 14853

(+1) 607-262-7508 ◊ rz379@cornell.edu ◊ <https://ruidongzhang.com>

EDUCATION

Information Science, Ph.D. Student

Department of Information Science, Cornell University

Advised by **Prof. Cheng Zhang**, committee members: Prof. François Guimbretière, Prof. Tanzeem Choudhury.

Aug. 2020 - Present

Ithaca, New York

Automation, Bachelor of Engineering

Department of Automation, Tsinghua University

Aug. 2016 - Jun. 2020

Beijing, China

RESEARCH EXPERIENCE

Graduate Student Researcher

Cornell University

Working with Prof. Cheng Zhang on building novel wearable systems to better understand human behavior, e.g. tracking facial expression/hand movement, and recognizing silent speech, with application in AR/VR and healthcare.

Aug. 2020 - present

Ithaca, New York

Undergraduate Student Researcher

Tsinghua University

Worked with Prof. Li Cao on developing ultrasound-based liquid level measurement system (Bachelor's thesis).

Oct. 2019 - Jun. 2020

Beijing, China

Undergraduate Research Intern

Cornell University

Worked with Prof. Cheng Zhang on exploring using wearable techniques to recognize and track human activities, including eating/drinking and exercising.

Jul. 2019 - Sept. 2019

Ithaca, New York

PUBLICATIONS

Ruidong Zhang, Ke Li, Yihong Hao, Yufan Wang, Zhengnan Lai, François Guimbretière, and Cheng Zhang. 2023. EchoSpeech: Continuous Silent Speech Recognition on Minimally-obtrusive Eyewear Powered by Acoustic Sensing. *In Proceedings of the 2023 CHI Conference on Human Factors in Computing Systems (CHI '23)*. (to appear)

Mose Sakashita, Xiaoyi Li, Ruidong Zhang, Hyunju Kim, Michael Russo III, Malte F Jung, Cheng Zhang, and François Guimbretière. 2023. ReMotion: Supporting Remote Collaboration in Open Space with Automatic Robotic Embodiment. *In Proceedings of the 2023 CHI Conference on Human Factors in Computing Systems (CHI '23)*. (to appear)

Hyunchul Lim, Ruidong Zhang, Samhita Pendyal, Jeyeon Jo, and Cheng Zhang. Recognizing and Predicting Fine-grained Hand-face Touching Activities Using a Neck-mounted Wearable. *In Proceedings of the 24th International Conference on Intelligent User Interfaces*. (to appear)

Ruidong Zhang, Jihai Zhang, Nitish Gade, Peng Cao, Se Yun Kim, Junchi Yan, and Cheng Zhang. 2022. EatingTrak: Detecting fine-grained eating moments in the wild using a wrist-mounted IMU. *Proc. ACM Hum.-Comput. Interact.* 6, MHCI, Article 214 (September 2022), 22 pages. <https://doi.org/10.1145/3546749>

Hyunchul Lim, Yaxuan Li, Matthew Dressa, Fang Hu, Jae Hoon Kim, Ruidong Zhang, and Cheng

Zhang. 2022. BodyTrak: Inferring Full-body Poses from Body Silhouettes Using a Miniature Camera on a Wristband. *Proc. ACM Interact. Mob. Wearable Ubiquitous Technol.* 6, 3, Article 154 (September 2022), 21 pages. <https://doi.org/10.1145/3552312>

Ke Li, Ruidong Zhang, Bo Liang, François Guimbretière, and Cheng Zhang, EarIO: A Low-power Acoustic Sensing Earable for Continuously Tracking Detailed Facial Movements, *Proc. ACM Interact. Mob. Wearable Ubiquitous Technol.* 6, 2, Article 62 (July 2022), 24 pages. <https://doi.org/10.1145/3534621>

Ruidong Zhang, Mingyang Chen, Benjamin Steeper, Yaxuan Li, Zihan Yan, Yizhuo Chen, Songyun Tao, Tuochao Chen, Hyunchul Lim, and Cheng Zhang. 2022. SpeeChin: A Smart Necklace for Silent Speech Recognition. *Proc. ACM Interact. Mob. Wearable Ubiquitous Technol.* 5, 4, Article 192 (Dec 2021), 23 pages. <https://doi.org/10.1145/3494987>

Tuochao Chen, Yaxuan Li, Songyun Tao, Hyunchul Lim, Mose Sakashita, Ruidong Zhang, Francois Guimbretiere, and Cheng Zhang. 2021. NeckFace: Continuously Tracking Full Facial Expressions on Neck-mounted Wearables. *Proc. ACM Interact. Mob. Wearable Ubiquitous Technol.* 5, 2, Article 58 (June 2021), 31 pages. <https://doi.org/10.1145/3463511>

TEACHING

INFO4320/5321: Introduction to Rapid Prototyping and Physical Computing	2023S
<i>Cornell University</i> . Teaching assistant. Instructor: Prof. Cheng Zhang	
INFO4320/5321: Introduction to Rapid Prototyping and Physical Computing	2022F
<i>Cornell University</i> . Teaching assistant. Instructor: Prof. Cheng Zhang	
INFO4320/5321: Introduction to Rapid Prototyping and Physical Computing	2022S
<i>Cornell University</i> . Teaching assistant. Instructor: Prof. Cheng Zhang	

HONORS AND AWARDS

University Fellowship (2020-2021)	Aug. 2020
<i>Cornell University</i>	
Academic Excellence Scholarship	Oct. 2019
<i>Tsinghua University</i>	
Academic Excellence Scholarship	Oct. 2017
<i>Tsinghua University</i>	

TECHNICAL STRENGTHS

Programming Languages	C/C++, Python, Java, C#
Operating Systems	macOS, Linux, Windows
Software & Tools	MATLAB, PyTorch, L ^A T _E X
Hardware & Prototyping	Laser cutting, 3D printing, PCB designing

LANGUAGES

Chinese (Mandarin)	Native
English	Fluent. TOFEL: 110 (R28, L29, S26, W27)