

Soundarya Ramesh

CONTACT

E-mail : sramesh@comp.nus.edu.sg

Web : <https://soundaryaramesh.github.io>

EDUCATION

National University of Singapore

Ph.D. Student, Computer Science

Advisor : Jun Han and Chan Mun Choon

Research Interests : Sensor Security, Audio and Wireless Sensing

Aug 2018 – Present

Current GPA : 4.92/5

National Institute of Technology Karnataka, India

Bachelor of Technology in Information Technology

Jul 2014 – May 2018

GPA : 9.01/10

CONFERENCE PAPERS

- *MagTracer*: Detecting GPU Cryptojacking Attacks via Magnetic Leakage Signals.
Rui Xiao, Tianyu Li, Soundarya Ramesh, Jun Han, Jinsong Han. **ACM MobiCom 2023**.
- *TickTock*: Detecting Mic Status in Laptops Leveraging Electromagnetic Leakage of Clock Signals.
Soundarya Ramesh, Ghazali Hadi, Sihun Yang, Chan Mun Choon, Jun Han. **ACM CCS 2022**.
- Acoustics to the Rescue: Physical Key Inference Attack Revisited.
Soundarya Ramesh, Rui Xiao, Anindya Maiti, Jong Taek Lee, Harini Ramprasad, Ananda Kumar, Murtuza Jadliwala, Jun Han. **USENIX Security 2021**.
- Neuro-Symbolic Execution: Augmenting Symbolic Execution with Neural Constraints.
Shen Shiqi, Shweta Shinde, Soundarya Ramesh, Abhik Roychoudhury, Prateek Saxena. **NDSS 2019**.

WORKSHOP PUBLICATIONS

- *Your Mic Leaks Too Much*: A Double-Edged Sword for Security
Soundarya Ramesh. To appear in **ACM MobiSys Rising Stars 2024**.
- *RampScope*: Ramp-level Localization of Shared Mobility Devices using Sidewalk Ramps.
Jonghyuk Yun*, Gyuyeon Kim*, Soundarya Ramesh, Jun Han. **ACM HotMobile 2023**.
- Listen to Your Key: Towards Acoustics-based Physical Key Inference.
Soundarya Ramesh, Harini Ramprasad, Jun Han. **ACM HotMobile 2020**.
Media Coverage: ACM News, Forbes, Scientific American, HackerNews, Mashable
- *SoundUAV*: Towards Delivery Drone Authentication via Acoustic Noise Fingerprinting.
Soundarya Ramesh, Thomas Pathier, Jun Han. **ACM DroNet 2019**.

INDUSTRY CONFERENCES

- *RollBack* - A New Time-Agnostic Replay Attack Against the Automotive Remote Keyless Entry Systems.
Levente Csikor, Hoon Wei Lim, Jun Wen Wong, Soundarya Ramesh, Rohini Poolat Parameswarath, Chan Mun Choon. **Black Hat USA 2022**.

POSTERS

- *RampScope*: Ramp-level Localization of Shared Mobility Devices using Sidewalk Ramps. Jonghyuk Yun*, Gyuyeon Kim*, Soundarya Ramesh, Jun Han. **ACM HotMobile 2023**. **Best Poster Award**
- *SoundUAV*: Fingerprinting Acoustic Emanations for Delivery Drone Authentication. Soundarya Ramesh, Thomas Pathier, Jun Han. **ACM MobiSys 2019**. **Best Poster Runner-up Award**

RESEARCH EXPERIENCES

Google, Mountain View	May – Aug 2022
Research Intern working on Audio Sensing for Augmented Reality (AR) Glasses Hosts : Chiong Lai, Mathieu Parvaix (co-host)	
National University of Singapore	May – Dec 2017
Research Intern in System Security Lab Host : Prateek Saxena	
Indian Institute of Science	May – Jun 2016
Research Intern in Cryptography and Information Security Lab Host : Arpita Patra	

HONORS AND AWARDS

- *NUS School of Computing Dean's Graduate Research Achievement Award* 2022
- *Placed on the Honor List of Student Tutors for Excellence in Teaching* 2022
- *Google PhD Fellowship* (under *Mobile Computing* research area) 2021 – 2024
- *Graduate Research Fellowship*, National University of Singapore 2018 – 2022
- *Research Forum Award* at the Deep Learning & Security Workshop, NUS 2017
- *Indian Academy of Sciences Fellowship* 2016

INVITED TALKS

- Listen to Your Key: Towards Acoustics-based Physical Key Inference
Music Technology Department, Capital University, Columbus, OH, USA Oct 2020
- “Are you listening?” – Exploring Audio Sensing through the Lens of Security
NESL Lab (led by Prof. Mani Srivastava), UCLA Feb 2023
- Listen to Your Key: Towards Acoustics-based Physical Key Inference
Acoustical Society of America Meeting in Ottawa, Canada May 2024 (*Upcoming*)

TEACHING EXPERIENCE

- Teaching Assistant for CS4222 Wireless Networks Spring 2022
- Teaching Assistant for CS3103 Computer Networks Practice Fall 2021
- Teaching Assistant for CS3235 Computer Security Spring 2020
- Teaching Assistant for CS5476 IoT Security Fall 2019, Fall 2020

PROFESSIONAL SERVICE

Student Reviewing Member

- Master of Computing Admission in the School of Computing, NUS (2022).

Program Committee Member

- ACM MobiSys 2024 Artifact Evaluation

Reviewer

- ACM IMWUT 2023
- ACM Transactions on Internet of Things 2022

External Reviewer

- Conferences: S&P 2024, Security 2024, IPSN 2024, SenSys 2020/2021/2022/2023, IoTDI 2020/2021/2022, ICDCS 2020/2021/2022, COMSNETS 2020/2021, WiSec 2019, MobiSys 2019/2024
- Workshops: HotMobile 2022/2024