Soundarya Ramesh

CONTACT

E-mail : sramesh@comp.nus.edu.sg Web : https://soundaryaramesh.github.io

EDUCATION

National University of Singapore *Aug 2018 – Present*
Ph.D. Student, Computer Science *Current GPA : 4.92/5*
Advisor : Jun Han and Chan Mun Choon

National Institute of Technology Karnataka, India *Jul 2014 – May 2018*
Bachelor of Technology in Information Technology GPA : 9.01/10

PEER-REVIEWED PUBLICATIONS

- 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.
  In the proceedings of 30^{th} *USENIX Security Symposium (***USENIX Security '21***).*
- Listen to Your Key: Towards Acoustics-based Physical Key Inference.
  Soundarya Ramesh, Harini Ramprasad, Jun Han.
  In the Proceedings of the 21^{st} *Annual International Workshop on Mobile Computing Systems and Applications (***HotMobile '20***).*
- SoundUAV: Towards Delivery Drone Authentication via Acoustic Noise Fingerprinting.
  Soundarya Ramesh, Thomas Pathier, Jun Han.
  In the Proceedings of the 5^{th} *ACM Workshop on Micro Aerial Vehicle Networks, Systems, and Applications (***DroNet '19***).*
- Neuro-Symbolic Execution: Augmenting Symbolic Execution with Neural Constraints.
  Shen Shiqi, Shweta Shinde, **Soundarya Ramesh**, Abhik Roychoudhury and Prateek Saxena.
  In the Proceedings of the 26^{th} *Network and Distributed System Security Symposium (***NDSS '19***).*

POSTERS

- SoundUAV: Fingerprinting Acoustic Emanations for Delivery Drone Authentication.
  Soundarya Ramesh, Thomas Pathier, Jun Han.
  In the Proceedings of 17^{th} *Annual International Conference on Mobile Systems, Applications, and Services (***MobiSys '19***).*

RESEARCH EXPERIENCES

Google, Mountain View May – Aug 2022

Research Intern working on audio-based applications for Augmented Reality Glasses
Hosts : Chiong Lai, Mathieu Parvaix (co-host)

National University of Singapore May – Dec 2017

Research Intern in System Security Lab
Supervisor : Prateek Saxena

Indian Institute of Science May – Jun 2016

Research Intern in Cryptography and Information Security Lab
Supervisor : Arpita Patra

HONORS AND AWARDS

- *Google PhD Fellowship* (under *Mobile Computing* research area) *2021 – Present*
- *Graduate Research Fellowship*, National University of Singapore *2018 – Present*
- *HotMobile* Student Travel Grant *2020*
- *MobiSys* Student Travel Grant *2019*
- *MobiSys Best Poster Runner-Up Award* *2019*
- *Research Forum Award* at the Deep Learning and Security Workshop, National University of Singapore *2017*
- *Indian Academy of Sciences Fellowship* *2016*

MEDIA COVERAGE OF RESEARCH

- *Smartphones Can Hear the Shape of Your Door Keys*
  Scientific American Podcast Mar 2021
- *How Hackers Use Sound To Unlock The Secrets Of Your Front Door*
  Forbes Magazine Aug 2020
- *Picking Locks with Audio Technology*
  ACM News Aug 2020
- *Security Researchers Found a New Way to Pick Locks, Using Only The Sound of The Key*
  ScienceAlert Aug 2020

INVITED TALKS

- Listen to Your Key: Towards Acoustics-based Physical Key Inference
  Music Technology Department, Captial University, Columbus, OH, USA *Oct 2020*

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*