

Aniketh Girish

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🌐 Aniketh Girish

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Bio: As a fourth year PhD student, I develop new hybrid black-box testing methods to empirically measure the existence of covert and side channel privacy risks in smart home and mobile platforms.

Education

- 2024 📖 **Visiting researcher** Khoury college, Northeastern university, Boston, MA, USA
Advisor: Prof. David choffnes
- Since 2020 📖 **PhD student.** IMDEA Networks Institute and University of Carlos III Madrid, Madrid.
Advisor: Prof. Narseo Vallina-Rodriguez (IMDEA Networks, AppCensus)
- 2020-2021 📖 **M.Sc. Computer Security, University of Carlos III Madrid, Spain**
Thesis title: *ImposTer: Towards an extensible privacy analysis framework for Smart Home ecosystem.*
- 2018 📖 **Summer Exchange, Ben-Gurion University of the Negev, Israel**
- 2016-2020 📖 **B.Tech. Amrita Vishwa Vidyapeetham, Amritapuri, Kerala, India**
Thesis: *Empirical Analysis of Adaptive Bitrate Streaming over QUIC*

Professional Experience

- 2018-2019 📖 **Research Intern.** Rochester Institute of Technology, USA.
Advisor: Prof. Taejoong (Tijay) Chung
I performed a large-scale, longitudinal, and comprehensive measurement study on how well the client-side implementation of DANE standard and its relevant protocols are deployed and managed. I investigated 29 popular email service providers, and four popular MTA and ten DNS software programs to reveal pervasive mismanagement in the DANE ecosystem. I discovered that 36% of TLSA records cannot be validated due to missing or incorrect DNSSEC records, and 14.17% of them are inconsistent with their certificates. I also found that only four email service providers support DANE for both outgoing and incoming emails, but two of them have drawbacks of not checking the Certificate Usage in TLSA records.
- 2019 📖 **Research Associate.** Internet Initiative Japan, Tokyo (2 months)
Advisors: Dr. Hajime Tazaki
Ported Docker engine for macOS. This resulted the development a memory management API, preparation of root file system via graph drivers, network configurations without the strict dependency on a guest VM rather runs independently of it's the host kernel.
- 2018 📖 **Google Code-In, Org Admin, KDE**
I led and managed the KDE community initiative for Google's Code-In (GCi) 2018 program. My primary responsibilities involved org-specific operating procedure, representation and serve as communication liaison with Google, the students and mentors. Further, I led the initiative to assure and maintain quality among the work conducted by the community.
 - 📖 **Google Summer of Code, GNU Project/ Wget2**
Added support for DNS over HTTPS, a web protocol that argues for sending DNS requests and receiving DNSresponses via HTTPS connections, hence providing query confidentiality and protection from various attack such as MITM, Eavesdropping, spoofing and much more. A new library to handle DNS resolution was introduced. Moreover, I implemented and provided support for protocols like DNS Service Discovery(DNS-SD) and EDNS.
- 2017 📖 **Google Summer of Code, KDE**
Implemented the KNSCore (KDE API) protocol, enabling download and upload possible within the websiteshare.krita.org.

Research Publications


Conference Proceedings

- 1 **A. Girish**, T. Hu, V. Prakash, D. Dubiois, J. S. Matic, D. Y. Huang, S. Egelman, J. Reardon, J. Tapiador, D. Choffnes, and N. Vallina-Rodriguez, "In the room where it happens: Characterizing local communication and threats in smart homes," in *Proceedings of the 23rd ACM Internet Measurement Conference*, 2023. [DOI: 10.1145/3618257.3624830](#).
- 2 **A. Girish**, V. Prakash, S. Egelman, J. Reardon, J. Tapiador, D. Y. Huang, S. Matic, and N. Vallina-Rodriguez, "Challenges in inferring privacy properties of smart devices: Towards scalable multi-vantage point testing methods," in *Proceedings of the 3rd International CoNEXT Student Workshop*, ser. CoNEXT-SW '22, 2022. [DOI: 10.1145/3565477.3569148](#).
- 3 **A. Girish**, J. Tapiador, S. Matic, and N. Vallina-Rodriguez, "Towards an extensible privacy analysis framework for smart homes," in *Proceedings of the 22nd ACM Internet Measurement Conference*, 2022. [DOI: 10.1145/3517745.3563023](#).
- 4 H. Lee, **A. Girish**, R. van Rijswijk-Deij, T. " Kwon, and T. Chung, "A longitudinal and comprehensive study of the DANE ecosystem in email," in *29th USENIX Security Symposium (USENIX Security 20)*, 2020. [URL: https://www.usenix.org/conference/usenixsecurity20/presentation/lee-hyeonmin](https://www.usenix.org/conference/usenixsecurity20/presentation/lee-hyeonmin).







Journal Articles

- 1 K. Hageman, Á. Feal, J. Gamba, **A. Girish**, J. Bleier, M. Lindorfer, J. Tapiador, and N. Vallina-Rodriguez, "Mixed signals: Analyzing software attribution challenges in the android ecosystem," *IEEE Transactions on Software Engineering*, 2023. [DOI: 10.1109/TSE.2023.3236582](#).

Awards and Career Achievements

2022  **TMA'22**, Best poster and presentation award

Invited Talks

- 2020  **BSides India**: Email security with DANE: Empirical Analysis of DANE for SMTP in the wild.
Location: Delhi, India
- 2019  **IIESoc RFCsWeLove**: DOH? DONUT! - The new internet according to RFC 8484
Location: GoJek office, Bangalore, India
-  **FOSSDEM'19**: DOH? DONUT! - The new internet according to RFC 8484
Location: Brussel, Belgium.
-  **Akademy'19**: Strengthen Code Review Culture: rm -rf "Toxic Behaviors
Location: Università degli Studi di Milano-Bicocca, Milan, Italy.
- 2018  **Akademy'18**: Strengthen Code Review Culture: rm -rf "Toxic Behaviors
Location: Tu Wein, Austria.
- 2017  **conf.KDE.in '17**: Object tracking using OpenCV and Qt
Location: IIT Guwahati, Assam, India.

Projects

📖 EU projects

Year(s)	Funding body	Award amount	Role	Project name	Award #
2021-2024	EU H2020	€4.6M	Researcher	Enhancing Digital Security, Privacy and Trust in Software (TRUST aWARE)	101021377

Personal Grants

- 2023 📖 **SURI'22**, student travel grant
- 2022 📖 **IMC'22**, student travel grant
- 📖 **TMA'22**, student travel grant
- 2018 📖 **BGU summer school'22**, scholarship to attend summer school at Ben-Gurion University of the Negev, Israel

Miscellaneous Experience

- 2016-2020 📖 **FOSS Club | Mentor and Member**, I actively involve in mentoring students to improving their skill-sets of the Free and Open Source Software(FOSS) club in Amrita Vishwa Vidyapeetham. To do so, I have conducted various sessions on open software and much more

References

Available on Request