

Aniketh Girish | Privacy Researcher

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Research Overview and Highlights

I am a Postdoctoral Researcher at the IMDEA Networks Institute (Madrid, Spain). My research sits at the intersection of privacy, empirical network measurement, and platform governance, with a focus on uncovering hidden data flows and cross-platform tracking in modern smart ecosystems. I have exposed novel covert tracking techniques, ranging from sandbox violations via localhost-based web-to-app tracking used by Meta and Yandex, to household-level tracking and cross-device fingerprinting enabled by local device discovery and wireless scanning mechanisms that allow location inference. My measurement-driven work has led to concrete technical impact across platforms and ecosystems. It directly influenced platform practices (e.g., local-network permission in Android 16) and prompted privacy redesigns by major IoT vendors (e.g., Philips). It also resulted in the removal of dozens of privacy-invasive apps and SDKs from the Google Play Store, multiple bug bounties for exposing covert local-network scans and canvas fingerprinting via embedded WebViews, and browser-level mitigations (e.g., Chrome, Firefox, DuckDuckGo), as well as tracking protections adopted by major privacy tools (e.g., AdGuard, uBlock Origin). At the policy and enforcement level, my findings informed investigations by EU data protection authorities and contributed to governmental, legislative, and legal proceedings (e.g., class-action lawsuits) in both Europe and the United States. In Europe, the work informed discussions cited by [Spain's Prime Minister](#) that led to a Congressional inquiry into Meta under the Digital Services Act. In the United States, the findings informed a formal oversight inquiry by members of the [U.S. House of Representatives](#) concerning potential violations of Android privacy protections by Meta. I publish in top-tier venues including PETS, IMC, and USENIX Security, and my research has received international media coverage from The Washington Post, Wired, CBC News, El País, and over 100 other outlets. I received the CNIL-Inria Privacy Protection Prize 2026 for the societal impact of my work on localhost tracking.

Research Interests

- Security and privacy for emerging technologies (mobile/web/smart-home ecosystems) with emphasis on covert tracking and cross-platform data flows.
- Ads privacy, abuse and risk measurement; network security of connected consumer devices.
- Unifying technical measurement with technology policy and regulatory perspectives.
- Methods: on-device and in-network measurement, large-scale traffic analysis, cross-vantage experimentation, and empirical policy evaluation.

Professional Experience

IMDEA Networks Institute <i>Postdoctoral Researcher</i> Advisor: Prof. Narseo Vallina-Rodriguez .	Madrid, Spain 10/2025–Present
Khoury College, Northeastern University <i>Visiting Researcher</i> Advisor: Prof. David Choffnes .	Boston, MA, USA 04/2024 - 05/2024
Internet Initiative Japan <i>Research Associate</i> Advisor: Dr. Hajime Tazaki .	Tokyo, Japan 06/2019 - 08/2019
Rochester Institute of Technology <i>Research Intern</i> Advisor: Prof. Taejoong (Tijay) Chung .	Rochester, NY, USA 05/2018–05/2019

Education

IMDEA Networks Institute & UC3M <i>Ph.D. Telematics Engineering</i>	Madrid, Spain 2020–2025
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Dissertation: *Understanding Interconnected Abuse in Consumer Smart Device Ecosystems*. Graduated *Sobresaliente Cum Laude*.
Advisors: [Dr. Srdjan Matic](#), [Prof. Narseo Vallina-Rodriguez](#).

- Challenged the existing process-centric view of privacy controls, showing that violations often arise from systemic interactions across digital ecosystems rather than isolated components.
- Independently ideated and executed the research end-to-end, developing empirical, multi-vantage measurement approaches to uncover cross-device and cross-platform tracking pathways and unmonitored data flows.
- Drove real-world impact, leading to platform-level protections (e.g., Android 16's local-network permission), privacy fixes from Google, TP-Link, Philips, and 20+ IoT vendors, and attracting global attention with 100+ international news and media reports.

University of Carlos III Madrid (UC3M)

Madrid, Spain

M.Sc. Computer Security

2020–2021

Dissertation: *ImposTer: Towards an extensible privacy analysis framework for Smart Home ecosystem*.

Advisors: [Dr. Srdjan Matic](#), [Prof. Juan Tapiador](#), [Prof. Narseo Vallina-Rodriguez](#).

Amrita Vishwa Vidyapeetham

Kerala, India

B.Tech. Computer Science and Engineering

2016–2020

Dissertation: *Empirical Analysis of Adaptive Bitrate Streaming over QUIC*.

Semester abroad: Ben-Gurion University of the Negev, Israel (Summer 2018).

Research Awards and Honors

2026: CNIL-Inria Privacy Protection Prize — Awarded for “Bridges to Self: Silent Web-to-App Tracking on Mobile via Localhost”. (24 June, Paris)

2022: Traffic Measurement and Analysis (TMA) — Best poster and presentation award.

Selected Publications

Conference Proceedings.....

- [1] G. Horteá, **A. Girish**, N. Vallina-Rodriguez, and J. Tapiador, “Dead domains, living data: A privacy risk analysis of domain lifecycle in android apps,” in *Proceedings on Privacy Enhancing Technologies (PoPETs)*, 2026.
- [2] T. Vlummens*, **A. Girish***, N. Weerasekara, F. Zuiderveen Borgesius, G. Acar, and N. Vallina Rodriguez, “Bridges to self: Silent web-to-app tracking on mobile via localhost,” in *Proceedings of the USENIX Security Symposium*, 2026. [Online]. Available: <https://localmess.github.io/>.

👤 Impact: Policy & Legal ([US House letter](#); [4 class action lawsuits across US, Canada, and Germany](#); [DSA scrutiny](#); [Spanish Congress testimony](#)); Standards ([LNA](#); [W3C](#); [IETF PEARG](#)); Mitigations ([Chrome 137](#); [Firefox 139](#); [Android 17](#); [Meta/Yandex halted the behaviour](#)); Blocklists ([DuckDuckGo](#), [AdGuard](#), [uBlock](#)); Presented at [CNIL Privacy Research Day 2026](#); received the [CNIL-Inria Privacy Protection Prize 2026](#).

- [3] N. Alomar, J. Reardon, **A. Girish**, N. Vallina-Rodriguez, and S. Egelman, “The effect of platform policies on app privacy compliance: A study of child-directed apps,” in *Proceedings on Privacy Enhancing Technologies (PoPETs)*, 2025. [Online]. Available: <https://petsymposium.org/popets/2025/popets-2025-0094.pdf>.
- [4] **A. Girish**, J. Reardon, J. Tapiador, S. Matic, and N. Vallina-Rodriguez, “Your signal, their data: An empirical privacy analysis of wireless-scanning sdks in android,” in *Proceedings on Privacy Enhancing Technologies (PoPETs)*, 2025. [Online]. Available: <https://petsymposium.org/popets/2025/popets-2025-0103.pdf>.
- [5] **A. Girish***, T. Hu*, V. Prakash, J. D. Dubois, 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 Internet Measurement Conference (IMC)*, 2023. DOI: [10.1145/3618257.3624830](https://doi.org/10.1145/3618257.3624830).

👤 Impact: [Prompted Android 16's new local network permission](#). Presented at [CNIL Privacy Research Day 2024](#).

- [6] **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 International CoNEXT Student Workshop*, 2022. [Online]. Available: <https://doi.org/10.1145/3565477.3569148>.
- [7] **A. Girish**, J. Tapiador, S. Matic, and N. Vallina-Rodriguez, “Towards an extensible privacy analysis framework for smart homes,” in *Proceedings of the Internet Measurement Conference (IMC)*, 2022. [Online]. Available: <https://doi.org/10.1145/3517745.3563023>.

- [8] H. Lee, **A. Girish**, R. van Rijswijk-Deij, T. T. Kwon, and T. Chung, "A longitudinal and comprehensive study of the DANE ecosystem in email," in *Proceedings of the USENIX Security Symposium*, 2020. [Online]. Available: <https://www.usenix.org/conference/usenixsecurity20/presentation/lee-hyeonmin>.

Journal Articles.....

- [9] K. Hageman, A. 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](https://doi.org/10.1109/TSE.2023.3236582).

* Co-first authors.

Student Grants and Travel Awards

2023: **Summer Research Institute on Security and Privacy (EPFL SURI)** — Lausanne, Switzerland — Student Travel Grant.

2023: **Interdisciplinary Summerschool on Privacy (ISP)** — Nijmegen, The Netherlands — Student Travel Grant.

2022: **Internet Measurement Conference (IMC)** — Nice, France — Student Travel Grant.

2022: **Traffic Measurement and Analysis (TMA)** — Enschede, The Netherlands — Student Travel Grant.

2018: **BGU Summer School Scholarship** — Ben-Gurion University of the Negev, Israel.

Invited Talks

2026: **Radboud University** — Your Signal, Their Data: An Empirical Privacy Analysis of Wireless-scanning SDKs in Android. (Nijmegen, Netherlands — invited research visit)

2026: **University of Zaragoza, EMACS Workshop** — Sweat, Sync, and Exposure: A Privacy Analysis of Interoperable Health and Fitness Ecosystem. (Jaca, Spain)

2025: **EURECOM Mobsec Seminar** — Covert Web-to-App Tracking via Localhost on Android. (Sophia Antipolis, Remote)

2025: **Ad-Filtering Dev Summit** — Covert Web-to-App Tracking via Localhost on Android. (Limmassol, Cyprus)

2025: **IETF 123 (PEARG)** — Covert Web-to-App Tracking via Localhost on Android. (Madrid, Spain)

2025: **XIX RediMadrid Conference** — Your Signal, Their Data: An Empirical Privacy Analysis of Wireless-scanning SDKs in Android. (Madrid, Spain)

2024: **RIPE 89 Plenary** — In the Room Where It Happens – Characterizing Local Communication and Threats in Smart Homes. (Prague, Czech Republic)

2024: **XIX RediMadrid Conference** — In the Room Where It Happens – Characterizing Local Communication and Threats in Smart Homes. (Madrid, Spain)

2020: **BSides India** — Email security with DANE: Empirical Analysis of DANE for SMTP in the wild. (Delhi, India)

2019: **IIESoc RFCsWeLove** — DOH? DONUT! - The new internet according to RFC 8484. (Bangalore, India)

2019: **FOSSDEM'19** — DOH? DONUT! - The new internet according to RFC 8484. (Brussels, Belgium)

2019: **Akademy'19** — Strengthen Code Review Culture: rm -rf 'Toxic Behaviors'. (Milan, Italy)

2018: **Akademy'18** — Strengthen Code Review Culture: rm -rf 'Toxic Behaviors'. (Vienna, Austria)

2017: **conf.KDE.in '17** — Object tracking using OpenCV and Qt. (Guwahati, India)

Research Projects

2021–2024: **TRUST aWARE (EU H2020, €4.6M, Award #101021377)** — Researcher. Enhancing digital security, privacy, and trust in software.

Open Source Contributions

2019: **Google Code-In | KDE** — Org Admin mentoring pre-university contributors across KDE projects.

2018: **Google Summer of Code | GNU Wget2** — Implemented DNS-over-HTTPS (DoH) with IPv4/IPv6, EDNS, and DNS-SD support.

2017: **Google Summer of Code | KDE/Krita** — Built encrypted client-server data sharing to prevent spam and secure

transfers.

Service & Advisory

2026: YC Startup School Paris — Selected attendee at Y Combinator's inaugural Startup School Paris at Station F. (Paris, France)

2021–2023: MADsec Reading Group — Organized and ran a security and privacy reading group at IMDEA Networks and UC3M.

2022–2023: IoXt Privacy Compliance Program — Contributed strategy and testing frameworks for a global IoT security compliance program.

2016–2020: FOSS Club Mentor, Amrita Vishwa Vidyapeetham — Mentored students on open-source development and ran workshops.

Selected Media Coverage

LeakyLM.....

05/2026: El Periódico — [La IA con la que chateas está filtrando tus conversaciones privadas.](#) (Spanish)

05/2026: El País — [Hay chats privados de IA en abierto por internet: los crecientes riesgos para la privacidad de los principales chatbots.](#) (Spanish)

Wireless Beacons.....

07/2025: El País — [How does your phone know so many private details? How thousands of apps are exploiting mysterious indoor location tracking.](#)

07/2025: La Sexta Noticias — [¿Alguna vez has pensado que el móvil te espía? Confirmado, apps te siguen usando WIFI, Bluetooth y datos aunque no actives el GPS .](#)

Localmess Attack.....

06/2025: ArsTechnica — [Meta and Yandex are de-anonymizing Android users' web browsing identifiers.](#)

06/2025: Washington Post — [Meta found a new way to violate your privacy. Here's what you can do.](#)

06/2025: El País — [Este es el método oculto con el que Meta rastrea sin permiso la navegación en móviles \(también en modo incógnito o con VPN\).](#) (Spanish)

06/2025: Sky News — [Meta found 'covertly tracking' Android users through Instagram and Facebook.](#)

06/2025: ABC — [Cómo Meta y Yandex consiguen datos concretos sobre tus hábitos en internet sin consentimiento.](#) (Spanish)

06/2025: De Morgen — [Het sluwe achterpoortje waarmee u online gevolgd wordt: Meta deed er alles aan om dit verborgen te houden.](#) (Dutch)

06/2025: Schneier on Security — [New Way to Covertly Track Android Users.](#)

06/2025: Zeroparty Data — ["Localhost tracking" explained. It could cost Meta 32 billion.](#)

06/2025: Security Boulevard — [Meta's Secret Spyware: 'Local Mess' Hack Tracks You Across the Web.](#)

06/2025: Deutschland Funk — [App-Attacke - Europäische Forscher decken groben Privacy-Verstoß von Meta auf.](#) (German)

06/2025: The Register — [Meta pauses mobile port tracking tech on Android after researchers cry foul.](#)

06/2025: TechRepublic — [Meta, Yandex Covertly Tracked Billions of Android Users, According to Researcher.](#)

06/2025: EFF — [Protect Yourself From Meta's Latest Attack on Privacy.](#)

06/2025: Privacy International — [Meta and Yandex break security to save their business model.](#)

06/2025: MediaPost — [Meta Must Face Suit For Allegedly Tracking Android Users' Web Browsing.](#)

IoT Security and Privacy.....

11/2023: ABC — [Espías en casa: la cara oscura de internet de las cosas en los 'hogares inteligentes'.](#) (Spanish)

11/2023: elcorreo - [Los dispositivos que tenemos en casa hablan entre sí y no te va a gustar lo que se cuentan.](#) (Spanish)

11/2023: HiddenWires — [New research reveals privacy and security threats in smart homes.](#)

11/2023: La Nueva Espana - [Así nos vigilan los dispositivos inteligentes en casa: saben dónde vivimos, qué hacemos en cada momento y hasta pueden averiguar nuestro nivel de renta.](#) (Spanish)

10/2023: **CBS News Calgary** - Are your home's smart devices leaking private data? Calgary researcher set to find out.

10/2023: **Wired** - Los dispositivos de tu hogar inteligente te espían, advierte este informe. (Spanish)

10/2023: **El País** — 'People have no idea': How smart devices spy on us and reveal information about our homes.