

Devashish Gosain

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Current Employment

2024– **Assistant Professor**, *CSE*, IIT Bombay, India.

Past Employment

2023–2024 **Assistant Professor**, *BITS Pilani Goa Campus*, India.

2022–2023 **Postdoctoral Researcher**, *COSIC, KU Leuven*, Belgium, (hosted by Claudia Diaz).

2020–2022 **Postdoctoral Researcher**, *Max Planck Institute of Informatics*, Germany, (hosted by Anja Feldmann).

Education

2015–2020 **PhD (CSE)**, *IIT-Delhi*, India.

2013–2015 **Master of Technology (CSE)**, *Birla Institute of Technology*, Ranchi, India.

2008–2012 **Bachelor of Technology (CSE)**, *Guru Gobind Singh Indraprastha University*, Delhi, India.

Research Interests

Networks, Privacy, Anonymity, Internet measurements.

Selected Publications

- 2024 **Out in the Open: On the Implementation of Mobile App Filtering in India**, *accepted for publication in proceedings of Passive and Active Measurements (PAM)*.
Authors: **Devashish Gosain**, Kartikey Singh, Rishi Sharma, Jitin S, Sambuddho Chakravarty
- 2023 **Thou Shalt Not Reject: Analyzing Accept-Or-Pay Cookie Banners on the Web**, *accepted for publication in proceedings of Internet Measurement Conference (IMC)*.
Authors: Ali Rasaii, **Devashish Gosain** and Oliver Gasser
- 2023 **PTPerf: On the performance evaluation of Tor Pluggable Transports**, *accepted for publication in proceedings of Internet Measurement Conference (IMC)*.
Authors: Zeya Umayya, Dhruv Malik, **Devashish Gosain**, Piyush Kumar Sharma
- 2023 **Poster: Hades: Practical Partitioning Attack on Cryptocurrencies**, *in proceedings of the conference on Network and Distributed System Security (NDSS)*.
Authors: Vinay Shetty, Piyush Kumar Sharma, Devashish Gosain
- 2023 **Cryptographic Deniability: A Multi-perspective Study of User Perceptions and Expectations**, *in proceedings of Usenix Security (Usenix Security)*.
Authors: Tarun Kumar Yadav, **Devashish Gosain**, Kent Seamons

- 2023 **DeeP4R: Deep Packet Inspection in P4 using Packet Recirculation**, in *proceedings of Conference of International Conference on Computer Communications (INFOCOM)*.
Authors: Sahil Gupta, **Devashish Gosain**, M Kwon, HB Acharya
- 2023 **On the Anonymity of Peer-To-Peer Network Anonymity Schemes Used by Cryptocurrencies**, in *proceedings of Conference on Network and Distributed Security Symposium (NDSS)*.
Authors: Piyush Kumar Sharma, **Devashish Gosain**, Claudia Diaz
- 2023 **Exploring the Cookieverse: A Multi-Perspective Analysis of Web Cookies**, in *proceedings of Conference on Passive and Active Network Measurements (PAM)*.
Authors: Ali Rasaii, Shivani Singh, **Devashish Gosain** and Oliver Gasser
- 2022 **Automatic Detection of Fake Key Attacks in Secure Messaging**, in *proceedings of Conference on Computer and Communications Security (CCS)*.
Authors: Tarun Kumar Yadav, **Devashish Gosain**, Amir Herzberg, Daniel Zappala, Kent Seamons
- 2021 **MiXiM: Mixnet design decisions and empirical evaluation**, in *proceedings of Workshop on Privacy in the Electronic Society (WPES)*.
Authors: Iness Ben Guirat, **Devashish Gosain**, Claudia Diaz
- 2021 **Simple Deep Packet Inspection with P4**, *demo paper in proceedings of International Conference on Network Protocols (ICNP)*.
Authors: Sahil Gupta, **Devashish Gosain**, G Grigoryan, M Kwon, HB Acharya
- 2021 **Telemetron: Measuring Network Capacity Between Off-Path Remote Hosts**, in *proceedings of Local Computer Networks (LCN)*.
Authors: **Devashish Gosain**, Aishwarya Jaiswal, H. B. Acharya, Sambuddho Chakravarty
- 2021 **Camoufler: Accessing The Censored Web By Utilizing Instant Messaging Channels**, in *proceedings of ASIA Conference on Computer and Communications Security (AsiaCCS)*.
Authors: Piyush Kumar Sharma, **Devashish Gosain**, Sambuddho Chakravarty
- 2021 **Too Close for Comfort: Morasses of (Anti-)Censorship in the Era of CDNs**, in *proceedings of Privacy Enhancing Technologies (PoPETS)*.
Authors: **Devashish Gosain**, Mayank Mohindra, Sambuddho Chakravarty
- 2020 **Maginot Lines and Tourniquets: On the Defendability of National Cyberspace**, in *proceedings of Local Computer Networks Symposium (LCN)*.
Authors: **Devashish Gosain**, Madhur Rawat, Piyush Kumar Sharma, H.B. Acharya
- 2020 **SiegeBreaker: An SDN Based Practical Decoy Routing System**, in *proceedings of Privacy Enhancing Technologies (PoPETS)*.
Authors: Piyush Kumar Sharma, **Devashish Gosain**, Himanshu Sagar, Chaitanya Kumar, Aneesh Dogra, Vinayak Naik, H.B. Acharya, Sambuddho Chakravarty
- 2019 **CAMP: cluster aided multi-path routing protocol for wireless sensor networks**, in *Wireless Networks, Springer*.
Authors: Mohit Sajwan, **Devashish Gosain**, Ajay. K. Sharma
- 2018 **Where The Light Gets In: Analyzing Web Censorship Mechanisms in India**, in *proceedings of Internet Measurement Conference (IMC)*.
Authors: Tarun Kumar Yadav*, Akshat Sinha*, **Devashish Gosain***, Piyush Sharma, Sambuddho Chakravarty. (*All authors have equal contributions.)

- 2018 **Hybrid energy-efficient multi-path routing for wireless sensor networks**, in *Journal of Computers and Electrical Engineering, Elsevier*.
Authors: Mohit Sajwan, **Devashish Gosain**, Ajay. K. Sharma
- 2017 **The Devil's in The Details: Placing Decoy Routers in the Internet**, in *proceedings of Annual Computer Security Applications Conference (ACSAC)*.
Authors: **Devashish Gosain**, Anshika Aggarwal, H. B. Acharya and Sambuddho Chakravarty
- 2017 **Mending Wall: On the Implementation of Censorship in India (Best Student Paper Award)**, in *proceedings of EAI International Conference on Security and Privacy in Communication Networks (SECURECOMM)*.
Authors: **Devashish Gosain**, Anshika Aggarwal, Sahil Shekhawat, H. B. Acharya and Sambuddho Chakravarty
- 2017 **Few Throats to Choke: On the Current Structure of the Internet**, in *proceedings of Local Computer Networks (LCN)*.
Authors: H. B. Acharya*, Sambuddho Chakravarty* and **Devashish Gosain***. (*All authors have equal contributions.)
- 2017 **DSERR: Delay Sensitive Energy Efficient Reliable Routing Algorithm for wireless sensor networks**, in *Wireless Personal Communication (WPC), Springer*.
Authors: **Devashish Gosain**, Itu Snigdh, Mohit Sajwan
- 2016 **Analysis of scalability for routing protocols in wireless sensor networks**, *Optik-International Journal for Light and Electron Optics, Elsevier*.
Authors: **Devashish Gosain**, Itu Snigdh

Teaching

- 2023 **Computer Networks**, *BITS Goa*.
- 2023 **Information Security**, *BITS Goa*.
- 2023 **Lecturer of Advanced Privacy Technologies at KU Leuven**.
- 2022 **Teaching Assistant**, *KU Leuven*.
Privacy and Big Data
- 2022 **Teaching Assistant**, *KU Leuven*.
Privacy Technologies
- 2022 **Co-Lecturer of Data Networks course at Saarland University** , (with Anja Feldmann, Oliver Gasser, Yiting Xia and Jialong Li).
- 2021 **Co-Lecturer of Data Networks course at Saarland University** , (with Anja Feldmann, Oliver Gasser, and Savvas Zannettou).
- 2015 - 2020 **Teaching Assistant**, *IIT-Delhi*.
Secure Coding, Network Security, Software Defined Networks, Scientific Communication, Security Engineering

Research Internships

- Sept. 2019 - **Visiting Scholar**, *Brigham Young University, Utah, USA*.
- Dec. 2019 **Automatic Detection and Prevention of Fake Key Attacks in Secure Messaging**.
Popular IM applications e.g., WhatsApp provide end-to-end encryption for billions of users. Designed several defenses for fake key attacks and use a threat analysis to identify which attacks each defense can automatically detect or prevent.

Invited Talks

- Oct. 2019 **CDNs and their role in Internet filtering circumvention**, *Brigham Young University, Utah, USA.*
- Feb. 2020 **Internet maps and censorship**, *COSIC, KU Leuven, Belgium.*
- June 2023 **Large scale traffic filtering of Android apps**, *TU Delft, Netherlands.*
- May 2024 **Traffic filtering by Android apps**, *Delivered a talk at IETF MAPRG session, Canada.*

Services

- 2024 **Vice Program Chair**, *Proceedings on Privacy Enhancing Technologies (PoPETS).*
- 2024 **Associate Editor**, *ACM Transactions on Privacy and Security (TOPS).*
- 2024 **PC member**, *Usenix Security (Usenix Security).*
- 2024 **PC member**, *Computer and Communications Security (CCS).*
- 2024 **PC member**, *Internet Measurement Conference (IMC).*
- 2024 **PC member**, *Network Traffic Measurement and Analysis Conference (TMA).*
- 2024 **PC member**, *Security and Privacy in Wireless and Mobile Networks (WiSec).*
- 2023 **PC member**, *Proceedings on Privacy Enhancing Technologies (PoPETS).*
- 2023 **PC member**, *European Symposium on Research in Computer Security (Esorics).*
- 2023 **PC member**, *International Conference on Applied Cryptography and Network Security (ACNS).*
- 2022 **PC member**, *European Symposium on Research in Computer Security (Esorics).*
- 2022 **PC member**, *Formal Foundations and Security of Programmable network Infrastructures (FFSPIN), co-located with ACM SIGCOMM.*
- 2022 **PC member**, *IMC (Shadow PC).*
- 2020 **Reviewer**, *IEEE Access Journal.*