

# Abhishek Bichhawat

AB 13/405A, IIT Gandhinagar  
Gandhinagar-382355, India  
☎ +91 79 2395 2573  
✉ [abhishek.b@iitgn.ac.in](mailto:abhishek.b@iitgn.ac.in)

## Research Interests

Verification of protocols and systems, Web security and privacy, Usable security and privacy

## Professional Appointments

- Mar. 2021 – **Assistant Professor**, IIT GANDHINAGAR, Gandhinagar, India.  
Present Department of Computer Science and Engineering
- Jan. 2018 – **Postdoctoral Fellow**, CARNEGIE MELLON UNIVERSITY, Pittsburgh, USA.  
Mar. 2021 School of Computer Science and Cylab
- Aug. 2011 – **Member of Technical Staff**, ORACLE INDIA PVT. LTD., Bangalore, India.  
Nov. 2012 ASM Team – Database Test Development
- Apr. 2011 – Jun. 2011 **Visiting Scholar**, MACQUARIE UNIVERSITY, Sydney, Australia.

## Education

- Jan. 2013 – Jun. 2018 **Ph.D. Computer Science**, *Universität des Saarlandes and IMPRS-CS*, Germany.  
**Thesis:** Practical Dynamic Information Flow Control.  
**Advisors:** Christian Hammer & Deepak Garg
- Jul. 2009 – Jul. 2011 **M.Tech. Computer Science and Engineering**, *IIT Roorkee*, India.  
First Class with Distinction - CGPA – 9.61
- Aug. 2005 – Jun. 2009 **B.E. Computer Science and Engineering**, *Anna University, Chennai*, India.  
First Class with Distinction - 85%

## Publications

- Under Review **DigitsOnTurbo: Leveraging SIMD for Accelerating Large-number Arithmetic**  
Subhrajit Das, Abhishek Bichhawat and Yuvraj Patel  
*21st European Conference on Computer Systems (EuroSys 2026)*
- Oakland 2026 **"I Wonder if These Warnings Are Accurate": Security and Privacy Advice in Nine Majority World Countries**  
Collins W. Munyendo, Veronica A. Rivera, Jackie Hu, Emmanuel Tweneboah, Amna Shahnawaz, Karen Sowon, Dilara Kekulluoglu, Marcos Silva, Yue Deng, Mercy Omeiza, Gayatri Priyadarsini Kancharla, Maria Rosario Niniz Silva, Maryam Mustafa, Abhishek Bichhawat, Francisco Marmolejo-Cossio, Elissa M. Redmiles, Yixin Zou  
*47th IEEE Symposium on Security and Privacy, 2026*
- FSTTCS 2025 **Fall-through Semantics for Mitigating Timing-based Side Channel Leaks**  
Aniket Mishra and Abhishek Bichhawat  
*45th IARCS Annual Conference on Foundations of Software Technology and Theoretical Computer Science, 2025*
- PoPETs 2025 **Johnny Can't Revoke Consent Either: Measuring Compliance of Consent Revocation on the Web**  
Gayatri Priyadarsini, Nataliia Bielova, Cristiana Santos and Abhishek Bichhawat  
*Proceedings on Privacy Enhancing Technologies, 2025*

- EASE 2025 **On the Prevalence and Usage of Commit Signing on GitHub: A Longitudinal and Cross-Domain Study**  
Anupam Sharma, Sreyashi Karmakar, Gayatri Priyadarsini, and Abhishek Bichhawat  
*International Conference on Evaluation and Assessment in Software Engineering, 2025*
- WWW 2025 **Least Privilege Access for Persistent Storage Mechanisms in Web Browsers**  
Gayatri Priyadarsini, Dishank Goel and Abhishek Bichhawat  
*The ACM Web Conference, 2025*
- ICSE-NIER 2025 **A Unified Browser-Based Consent Management Framework**  
Gayatri Priyadarsini and Abhishek Bichhawat  
*47th International Conference on Software Engineering (New Ideas and Emerging Results), 2025*
- ISEC 2025 **Worst-Case Response Time Analysis for Periodic Programs with Nested Locks**  
Harshit Ramolia and Siddhesh Kanawade and Abhishek Bichhawat  
*18th Innovations in Software Engineering Conference, 2025*
- BuildSec 2024 **Online Authentication Habits of Indian Users**  
Pratyush Choudhary, Subhrajit Das, Mukul Paras Potta, Prasuj Das and Abhishek Bichhawat  
*1st International Conference on Building a Secure and Empowered Cyberspace, 2024*
- ICISS 2024 **Web Privacy Perceptions Amongst Indian Users**  
Gayatri Priyadarsini, Anshika Saxena, Aditi Dey, Prakriti and Abhishek Bichhawat  
*20th International Conference on Information Systems Security, 2024*
- CCS 2023 **Tainted Secure Multi-Execution to Restrict Attacker Influence**  
McKenna McCall, Abhishek Bichhawat and Limin Jia  
*30th ACM Conference on Computer and Communications Security, 2023*
- ESORICS 2023 **Layered Symbolic Security Analysis in DY\***  
Karthikeyan Bhargavan, Abhishek Bichhawat, Pedram Hosseini, Ralf Küsters, Klaas Pruksma, Guido Schmitz, Clara Waldmann and Tim Würtele  
*28th European Symposium on Research in Computer Security, 2023*
- SOUPS 2023 **Towards Usable Security Analysis Tools for Trigger-Action Programming**  
McKenna McCall, Eric Zeng, Faysal Hossain Shezan, Mitchell Yang, Lujo Bauer, Abhishek Bichhawat, Camille Cobb, Limin Jia and Yuan Tian  
*19th Symposium on Usable Privacy and Security, 2023*
- EuroSP 2022 **Compositional Information Flow Monitoring for Reactive Programs**  
McKenna McCall, Abhishek Bichhawat and Limin Jia  
*7th IEEE European Symposium on Security and Privacy, 2022*
- Oakland 2022 **Noise\*: A Library of Verified High-Performance Secure Channel Protocol Implementations**  
Son Ho, Jonathan Protzenko, Abhishek Bichhawat and Karthikeyan Bhargavan  
*43rd IEEE Symposium on Security and Privacy, 2022*
- PSL 2022 **A Tutorial-Style Introduction to DY\***  
Karthikeyan Bhargavan, Abhishek Bichhawat, Quoc Huy Do, Pedram Hosseini, Ralf Küsters, Guido Schmitz and Tim Würtele  
*Protocols, Strands, and Logic, Essays Dedicated to Joshua Guttman on the Occasion of his 66.66th Birthday, 2022*
- CCS 2021 **An In-Depth Symbolic Security Analysis of ACME**  
Karthikeyan Bhargavan, Abhishek Bichhawat, Quoc Huy Do, Pedram Hosseini, Ralf Küsters, Guido Schmitz and Tim Würtele  
*ACM Conference on Computer and Communications Security, 2021*
- JCS 2021 **Permissive Runtime Information Flow Control in the Presence of Exceptions**  
Abhishek Bichhawat, Vineet Rajani, Deepak Garg and Christian Hammer  
*Journal of Computer Security, vol. 29, no. 4, 2021*

- EuroSP 2021 **DY\*: A Modular Symbolic Verification Framework for Executable Cryptographic Protocol Code**  
Karthikeyan Bhargavan, Abhishek Bichhawat, Quoc Huy Do, Pedram Hosseini, Ralf Küsters, Guido Schmitz and Tim Würtele  
*6th IEEE European Symposium on Security and Privacy, 2021*
- CSF 2021 **Gradual Security Types and Gradual Guarantees**  
Abhishek Bichhawat, McKenna McCall and Limin Jia  
*34th IEEE Computer Security Foundations Symposium, 2021*
- CSF 2021 **Automating Audit with Policy Inference**  
Abhishek Bichhawat, Matt Fredrikson and Jean Yang  
*34th IEEE Computer Security Foundations Symposium, 2021*
- AsiaCCS 2020 **Contextual and Granular Policy Enforcement in Database-backed Applications**  
Abhishek Bichhawat, Matt Fredrikson, Jean Yang and Akash Trehan  
*15th ACM Asia Conference on Computer and Communications Security, 2020*
- ESORICS 2017 **WebPol: Fine-grained Information Flow Policies for Web Browsers**  
Abhishek Bichhawat, Vineet Rajani, Jinank Jain, Deepak Garg and Christian Hammer  
*22nd European Symposium on Research in Computer Security, 2017*
- CSF 2015 **Information Flow Control for Event Handling and the DOM in Web Browsers**  
Vineet Rajani, Abhishek Bichhawat, Deepak Garg and Christian Hammer  
*28th IEEE Computer Security Foundations Symposium, 2015*
- ICSE 2015 **Post-dominator analysis for precisely handling implicit flows**  
Companion Abhishek Bichhawat  
*37th IEEE International Conference on Software Engineering 2, 2015*
- PLAS 2014 **Generalizing Permissive-Upgrade in Dynamic Information Flow Analysis**  
Abhishek Bichhawat, Vineet Rajani, Deepak Garg and Christian Hammer  
*ACM 9th Workshop on Programming Languages and Analysis for Security, 2014*
- POST@ETAPS 2014 **Information Flow Control in WebKit's JavaScript Bytecode**  
Abhishek Bichhawat, Vineet Rajani, Deepak Garg and Christian Hammer  
*3rd International Conference on Principles of Security and Trust, 2014*
- ICSE 2014 **Exception handling for dynamic information flow control**  
Companion Abhishek Bichhawat  
*36th IEEE International Conference on Software Engineering Companion Proceedings, 2014*
- ICA3PP 2011 **Security Architecture for Virtual Machines**  
Udaya Tupakula, Vijay Varadharajan and Abhishek Bichhawat  
*11th International Conference on Algorithms and Architectures for Parallel Processing, 2011*

## Teaching

- Mar. 2021 – **Instructor**, OPERATING SYSTEMS, DISTRIBUTED SYSTEMS AND CLOUD COMPUTING,  
Present COMPUTER AND NETWORK SECURITY, COMPUTER SYSTEMS.  
IIT Gandhinagar

## Honors and Awards

- 2025 Invited lectures on Web Security at ICAN Faculty Development Program at IIT Madras
- 2024 Google India Research Award
- 2024 Google exploreCSR Award (along with Dr. Nipun Batra and Dr. Neeldhara Misra)
- 2024 Best Paper Award at BuildSec'24
- 2022 Google exploreCSR Award
- 2021 DST-Inspire Faculty Fellowship
- 2015 RS3 Best Paper Award for the CSF 2015 paper

- 2014 Second prize at the ACM SIGSOFT Student Research Competition at ICSE 2014  
2011 Goyal Cash Prize for highest CGPA in CS from IIT Roorkee  
2009 – 2011 MHRD Fellowship  
2009 Best Performer in Training during internship at Infosys Technologies Ltd.

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## Service

### Program Co-Chair

PLAS 2025

*20th Workshop on Programming Languages and Analysis for Security (PLAS 2025)*

### Track Co-Chair

ACM ASIACCS 2026

*Track on Software Security, Formal Methods and Programming Languages*

### Program Committee Member

IEEE COMPUTER SECURITY FOUNDATIONS SYMPOSIUM (CSF) – 2022 - 25

THE ACM WEB CONFERENCE (WWW) – 2025

ACM ASIA CONFERENCE ON COMPUTER AND COMMUNICATIONS SECURITY (ASIACCS) – 2025

INTERNATIONAL CONFERENCE ON COMPUTER AIDED VERIFICATION (CAV) – 2023

IEEE EUROPEAN SYMPOSIUM ON SECURITY AND PRIVACY (EUROS&P) – 2023 - 24

INTERNATIONAL CONFERENCE ON INFORMATION AND SYSTEMS SECURITY (ICISS) – 2023 - 24

### Journal Reviewer

JOURNAL OF COMPUTER SECURITY (JCS)

ACM TRANSACTIONS ON PRIVACY AND SECURITY (TOPS)

JOURNAL OF COMPUTER AND SYSTEM SCIENCES

JOURNAL OF OBJECT TECHNOLOGY

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## Grants and Funded Projects

- 2024 **Bridging Digital Divides Through Computing**  
CO-PI, Funded by Google exploreCSR Award 2024
- 2024 **Towards a Secure and Private Web Browsing Experience**  
PI, Funded by Google India Research Award 2024
- 2023-2025 **Understanding and Ensuring the Privacy of User Data**  
PI, Funded by SERB
- 2023-2026 **Verified Security Properties of Group Messaging Protocols**  
PI, Funded by CEFIPRA under DST-Inria grant
- 2022 **Google exploreCSR Award**  
PI, Funded by Google
- 2021-2026 **Practical Dynamic Information Flow Control**  
PI, Funded by DST as part of INSPIRE Faculty Award