

Abhishek Bichhawat

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Education

2013–2018 **Ph.D. Computer Science**, *Universität des Saarlandes and IMPRS-CS*, Germany.
Thesis: Practical Dynamic Information Flow Control. Advisors: Christian Hammer & Deepak Garg

2009–2011 **M.Tech. Computer Science and Engineering**, *IIT Roorkee*, India.
First Class with Distinction - CGPA – 9.61

2005–2009 **B.E. Computer Science and Engineering**, *Anna University, Chennai*, India.
First Class with Distinction - CGPA – 8.5

Professional Experience

Jan. 2018 – **Postdoctoral Fellow**, CARNEGIE MELLON UNIVERSITY, USA.
Present Mechanized protocol verification; analyzing security of IoT systems; enforcing privacy policies in enterprise systems; gradual information flow types.

Jan. 2013 – **Research Assistant**, UNIVERSITÄT DES SAARLANDES, Germany.
Sep. 2017 Research on enforcing information flow control in web browsers.

Jun. 2017 – **Research Intern**, MICROSOFT RESEARCH INDIA, Bangalore, India.
Aug. 2017 Worked with Assem Rastogi on continuing the initial research on building a verified browser security engine.

Sep. 2016 – **Research Intern**, INRIA, Paris, France.
Dec. 2016 Worked with Karthikeyan Bhargavan on building a formally verified browser security engine in FStar.

Feb. 2014 – **Research Intern**, MICROSOFT RESEARCH INDIA, Bangalore, India.
Apr. 2014 Worked with Kapil Vaswani on building information flow secure C#.

Aug. 2011 – **Member of Technical Staff**, ORACLE INDIA PVT. LTD., Bangalore, India.
Nov. 2012 ASM Team – Database Test Development.

Apr. 2011 – **Visiting Scholar**, MACQUARIE UNIVERSITY, Sydney, Australia.
Jun. 2011 Worked with Udaya Tupakula and Vijay Varadharajan on securing virtual machines using IDS with analysis and countermeasures to tackle zero day attacks.

Jan. 2009 – **Intern**, INFOSYS TECHNOLOGIES LTD., Mysore, India.
May 2009 Automatic Evaluation of SQL Select Queries.

Publications

Peer-reviewed

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 WebPol: Fine-grained Information Flow Policies for Web Browsers
2017 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

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
2014 Abhishek Bichhawat, Vineet Rajani, Deepak Garg and Christian Hammer
3rd International Conference on Principles of Security and Trust, 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 Experience

Oct. 2015 – **Teaching Assistant**, SECURE INFORMATION FLOW.
Feb. 2016 Universität des Saarlandes, Germany

Apr. 2015 – **Teaching Assistant**, SEMINAR: HOT TOPICS IN LANGUAGE SECURITY.
Jul. 2015 Universität des Saarlandes, Germany

Apr. 2014 – **Teaching Assistant**, SECURE INFORMATION FLOW.
Jul. 2014 Universität des Saarlandes, Germany

Apr. 2013 – **Teaching Assistant**, SEMINAR: HOT TOPICS IN LANGUAGE SECURITY.
Jul. 2013 Universität des Saarlandes, Germany

Service

Shadow PC and Poster Committee Member, 41ST IEEE SYMPOSIUM ON SECURITY AND PRIVACY, 2020.

Artifact Evaluation Committee Member, 41ST ACM SIGPLAN CONFERENCE ON PROGRAMMING LANGUAGE DESIGN AND IMPLEMENTATION, 2020.

Reviewer, JOURNAL OF COMPUTER AND SYSTEM SCIENCES.

Reviewer, JOURNAL OF OBJECT TECHNOLOGY.

Awards

2015 RS3 Best Paper Award for the paper “Information Flow Control for Event Handling and the DOM in Web Browsers”

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.