

TOMMASO INNOCENTI

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Research Overview

My research focuses on Security and Privacy to increase the security of general users. My works reflect my passion and tenacity to investigate complex security problems. With my research, I increased the security of the Best Current Practice of OAuth and the OpenID protocol. Various topics in Web Security attract my interest, but the current focal point of my research is Web Authentication.

EDUCATION

Ph.D. Computer Science <i>Cybersecurity</i> Northeastern University GPA: 4.0/4.0	Sep. 2018 – (Expected Sep. 2024) Boston, USA
Master in Computer Science And Engineering Politecnico di Milano Grade: 101/110	Sep. 2014 – May 2018 Milano, Italy
Erasmus Experience Universidad Complutense de Madrid (UCM)	Sep. 2015 – Feb. 2016 Madrid, Spain

WORK EXPERIENCE

LEADERS Program Gordon Institute of Engineering Leadership Northeastern University <ul style="list-style-type: none">Applied experiential learning initiative that integrates leadership and professional-skills education with a research project	Spring 2020 – (ongoing) Boston, USA
Research Assistant Northeastern University <ul style="list-style-type: none">Manage a research topic in a team environmentPerformed cutting edge security research	Apr. 2018 – Sep. 2018 Boston, USA
Master Thesis at SecLab Less is more (Secure): automated reduction of the attack surface in modern Browser <ul style="list-style-type: none">Investigated the Browser functionalities as potential attack surfaceInstrumented the Browser functionalities to define the minimal set of required functionalityEvaluated the model extracted against: reduction of Attack surface and the performance increase	Nov. 2016 – June 2017 Boston, USA

PROJECTS AND RESEARCH

OAuth 2.0 Redirect URI Validation Falls Short, Literally <i>Tommaso Innocenti</i> , Matteo Golinelli, Ali Mirheidari, Kaan Onarlioglu, Bruno Crispo, Engin Kirda ACSAC'23 (A.R. 104/497 = 20.9%)	Fall 2023 Austin, TX
FRAMESHIFTER: Security Implications of HTTP/2-to-HTTP/1 Conversion Anomalies Bahruz Jabiyev, Steven Sprecher, Anthony Gavazzi, <i>Tommaso Innocenti</i> , Kaan Onarlioglu, Engin Kirda USENIX'22 (A.R. 392/2535 = 15.4%)	Sum 2022 Boston, MA
You've Got (a Reset) Mail: A Security Analysis of Email-Based Password Reset Procedures <i>Tommaso Innocenti</i> , Ali Mirheidari, Amin Kharraz, Bruno Crispo, Engin Kirda DIMVA'21 (A.R. 16/66 = 28.7%)	Sum 2021 Virtual

CONFERENCES AND PRESENTATIONS

Annual Computer Security Applications Conference (ACSAC)'23 OAuth 2.0 Redirect URI Validation Falls Short, Literally	December 2023 Austin, Texas
OAuth Security Workshop (OSW)'23 OAuth 2.0 Redirect URI Validation Falls Short, Literally	August 2023 Royal Holloway University, London
Federal Trade Commission (FTC) invited talk You've Got (a Reset) Mail: A Security Analysis of Email-Based Password Reset Procedures	October 2021 Virtual
Detection of Intrusions and Malware & Vulnerability Assessment (DIMVA)'21 You've Got (a Reset) Mail: A Security Analysis of Email-Based Password Reset Procedures	July 2021 Virtual

PROFESSIONAL SERVICES/NETWORK

OpenID foundation Conformance-suite	October 2023
IETF OAuth Working Group OAuth 2.0 Security Best Current Practice	October 2023
Conference on Computer and Communications Security (CCS)'23 Sub-reviewer	November 2022 Copenhagen, Denmark
USENIX'23 Sub-reviewer	August 2022 Anaheim, California

SELECTED ACHIEVEMENT/ GRANTS

Annual Computer Security Applications Conference (ACSAC)'23 Travel grant	December 2023 Austin, Texas
OAuth Security Workshop (OSW)'23 Student scholarship	August 2023 London, United Kingdom
Erasmus+ Exchange program	Sep. 2015 Feb. 2016 Complutense University of Madrid

SKILLS

Languages: English C1 (TOEFL score:100/120) , Spanish A1, Italian (mother tongue)
Programming: C, Java, C++, Python, SQL, HTML, Node.js, Puppeteer, JavaScript, Docker, Git
Document Creation: Microsoft Office Suite, LaTeX