

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

WORK EXPERIENCE

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

PROJECTS AND RESEARCH

OAuth 2.0 Redirect URI Validation Falls Short, Literally	Fall 2023
Tommaso Innocenti, Matteo Golinelli, Ali Mirheidari, Kaan Onarlioglu, Bruno Crispo, Engin Kirda	Austin, TX
ACSAC'23 (A.R. 59/246 = 23.9%)	
FRAMESHIFTER: Security Implications of HTTP/2-to-HTTP/1 Conversion Anomalies	Sum 2022
Bahruz Jabiyev, Steven Sprecher, Anthony Gavazzi, Tommaso Innocenti, Kaan Onarlioglu, Engin Kirda	Boston, MA
USENIX'22 (A.R. 392/2535 = 15.4%)	
You've Got (a Reset) Mail: A Security Analysis of Email-Based Password Reset Procedures	Sum 2021
Tommaso Innocenti, Ali Mirheidari, Amin Kharraz, Bruno Crispo, Engin Kirda	Virtual
DIMVA'21 (A.R. 16/66 = 28.7%)	

CONFERENCES AND PRESENTATIONS

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

PROFESSIONAL SERVICES / NETWORK

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

SELECTED ACHIEVEMENT / GRANTS

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