Michele Spagnuolo

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EXPERIENCE

Full-stack software engineer with **10+ years** of security experience, with a strong focus on the security of the web platform.

GOOGLE | Staff Information Security Engineer   Zürich, Switzerland | Nov 2021 – Present

- Lead the **Web Signals & Intelligence** pillar in the Information Security team, coordinating and overseeing infrastructure to make web security properties of terabytes of daily web traffic query-able, enabling better prioritization of efforts, far-reaching security remediations and supporting the deployment efforts of all the modern web security features.
- Support leadership and decision making at organization level with security metrics.

GOOGLE | Senior Information Security Engineer   Zürich, Switzerland | Dec 2016 – Nov 2021

- Work with product teams at Google/Alphabet, browser vendors, and standards bodies (W3C) to ship web security features.

GOOGLE | Information Security Engineer II and III   Zürich, Switzerland | Jan 2014 – Dec 2016

- Co-design parts of the W3C Content Security Policy (CSP) specification, in order to make it possible for real-world, complex web applications to mitigate XSS vulnerabilities. Implemented supporting tools and drove adoption at Google.
- Perform security code audits and design reviews for Google/Alphabet products.
- Fuzz at scale, both internal products and open-source software and libraries.
- Conduct research to identify new web attack vectors.

SPREAKER | Security Consultant, System Administrator   Remote | Jan 2011 – Dec 2011

- Carry out security audits, performed penetration tests and white/black-box analysis of frontend and backend systems.
- Design and deploy a growing architecture on AWS, including orchestration of PostgreSQL databases with continuous archiving.

EDUCATION

M.Sc. in Engineering of Computing Systems   Milan, Italy | 2013 | with honors
Politecnico di Milano

M.Sc. in Computer Science   Chicago, IL | 2013 | GPA 4.0
University of Illinois at Chicago

SELECT PROJECTS

ROSETTA FLASH ⬈   BEAT SAME ORIGIN POLICY PLAYING WITH BYTES
Combine DEFLATE, Flash, and JSONP in a creative way and break the web! Working with Adobe and popular web frameworks, I prevented sensitive data exfiltration and forged authenticated requests in most of the modern web. Presented at major international conferences, nominated for a Pwnie Award.

BITIODINE ⬈   EXTRACT KNOWLEDGE FROM THE BITCOIN BLOCKCHAIN
Perform complex queries on Bitcoin transactions, group addresses together by controlling entity, and much more. Used by malware analysts and law enforcement to investigate cases such as the Silk Road, CryptoLocker and the Mt. Gox scandal. Served as a base for professional frameworks currently in use for abuse detection by several Bitcoin businesses.

ACADEMIC PUBLICATIONS

CSP IS DEAD, LONG LIVE CSP: ON THE INSECURITY OF WHITELISTS AND THE FUTURE OF THE CONTENT SECURITY POLICY ⬈

Lukas Weichselbaum, Michele Spagnuolo, Sebastian Lekies, Artur Janc

Proceedings of the 23rd ACM Conference on Computer and Communications Security, ACM, Vienna, Austria (2016)

BITIODINE: EXTRACTING INTELLIGENCE FROM THE BITCOIN NETWORK ⬈

Michele Spagnuolo, Federico Maggi, Stefano Zanero

Financial Cryptography and Data Security (2014)

CERTIFICATIONS AND AWARDS

Oxford Fintech Programme   2018
Saïd Business School, University of Oxford

Pwnie Awards - Nomination   2014
for Rosetta Flash

Internet Bug Bounty   2014
for Rosetta Flash

Security Hall of Fame   2011-2016
Google, Twitter, Opera, eBay, Tumblr, Nokia, Shopify, Mailchimp, Starbucks, ...

Offensive Security Certified Professional   2007
Offensive Security

OUTREACH / INTERNATIONAL CONFERENCES

I am a frequent speaker at international security conferences. You can find an updated timeline here.

SKILLS

Coding Java, C(++), Go, Rust, Python, JS, TypeScript, PHP, Bash, LaTeX
Data Science Distributed data pipeline technologies (Flume), SQL, major DBs, statistics and data visualization tools
Web3 Solidity, Vyper, Ethereum/EVM Smart Contracts with a focus on security
Languages English, Italian, German, Swiss German