Xavier Fernando
Riofrío Machado

Professional profile:

Offensive Security Expert with a Master's degree in Cyber Security from the University of Birmingham and 10+ years of experience across mobile, API, cloud, and infrastructure security. Currently leading offensive security operations at a Latin American fintech, with deep specialization in Android security research — including RASP bypass, KYC biometric evasion, and mobile application reverse engineering using dynamic instrumentation.

Former security engineer at CERN, where I focused on web penetration testing and vulnerability analysis for critical research infrastructure. My work spans the full offensive security lifecycle: from attack surface reconnaissance and vulnerability discovery to exploitation, reporting, and remediation guidance. I hold industry certifications including CEH and

Education

MSc Cyber Security with Distinction[1]

University of Birmingham - United Kingdom

September 2016 - December 2017

BSc in Computer Science and Engineering.

University of de Cuenca - Cuenca, Ecuador

September 2007 – July 2014

Administration and Public Management

Universidad de Técnica Particular de Loja - Loja, Ecuador

Oct 2017 – June 2023

Research and professional experience

December 2023 – Present

Offensive Security Expert • **Deuna (Ecuador / LatAm)**

Mobile Ethical Hacker · API Pentesting · Biometric Security Research · KYC Security

Led offensive security across mobile, API, and cloud attack surfaces for a Latin American fintech processing millions of daily payment transactions. Specialized in Android security research: RASP bypass, root detection evasion, anti-tampering control circumvention, and mobile application reverse engineering. Conducted end-to-end KYC security assessments, identifying critical vulnerabilities in biometric onboarding pipelines and achieving full liveness detection bypass through Frida dynamic instrumentation and synthetic media injection (DeepFaceLive). Performed mobile penetration testing (static and dynamic analysis), API security assessments, and cloud infrastructure audits including privilege escalation and WAF bypass chains. Evaluated third-party biometric providers for KYC security compliance.

Date: May 2026

eJPT, and have presented original security research as an invited speaker at international conferences including PWN or DIE (Ecuador) and BSides Colombia.

I operate with a researcher's mindset: finding what others miss, building custom tooling, and translating technical findings into business risk. I thrive in high-stakes environments where security is not optional.

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January 2023 – November 2023

Cyber Security Specialist • **Unicomer Group (Remote)**

Ethical Hacking · Microsoft Defender Security administrator · Cloud Security · Security Analysis (Vulnerabilities)·

Responsible for conducting the ethical hacking team, administering Microsoft Defender security, and ensuring cloud security (MDE, MDO, etc). My role also involved performing security analysis to identify and mitigate vulnerabilities within the organization's systems and apps.

April 2021 – June 2022

Security Engineer (Penetration Testing) • **CERN (Geneva,Switzerland)**

Web Penetration testing, CI/CD, vulnerability analysis, code security, and ethical hacking.

I specialize in web penetration testing, CI/CD (Continuous Integration/Continuous Deployment), vulnerability analysis, code security, and ethical hacking. My role involves ensuring the security and integrity of CERN's web applications through rigorous testing, analysis, and the implementation of robust security measures.

December 2017 – Present

Independent Security Consultant & Bug Bounty Researcher • **Self-employed**

Trainer, Penetration testing consulting, and bug bounty programs.

I provide comprehensive consulting services in the field of IT security. My expertise includes delivering training programs, offering penetration testing consulting, and facilitating bug bounty programs. Through these services, I assist organizations in identifying and addressing vulnerabilities, enhancing their overall security posture, and promoting a proactive approach to mitigating potential risks.

May 2018 – March 2021

Cyber Security Researcher • **Universidad of Cuenca (Ecuador)**

Security researcher, White-Black box hacking and Zero-day attacks.

My focus revolves around conducting cutting-edge research in the field of cybersecurity. I specialize in security research, encompassing activities such as white-box and black-box hacking techniques, as well as analyzing and mitigating zero-day attacks (Research on this). Through my work, I contribute to the advancement of knowledge and the development of robust security measures to protect against emerging threats and vulnerabilities.

October 2018 – April 2019

Professor • **Universidad Nacional de Loja (Ecuador)**

Date: May 2026

Teaching and researching experience. In cybersecurity

It was an opportunity to engage in both teaching and research activities. I focused primarily on the cybersecurity field, delivering lectures and conducting research to educate and expand knowledge in this critical area of study.

August 2014 – August 2016

Software developer • **University of Cuenca (Ecuador)**

Frontend - Angular JS, Backend – java spring boot.

Worked on developing software applications. My responsibilities included front-end development using AngularJS and back-end development using Java. I actively contributed to the design, implementation, and maintenance of various software projects during this period.

Training courses

Holder of industry-recognized certifications including CEH (Certified Ethical Hacker) and eJPT, with 500+ hours of hands-on training across offensive security disciplines: Android mobile security, dynamic instrumentation with Frida, web application penetration testing, cloud security, and Linux systems hardening. Continuously engaged in practical learning through CTF platforms and specialized security courses.

Awards

Invited speaker at international cybersecurity conferences, including **PWN or DIE** (Ecuador) and **BSides Colombia 2026**, presenting research in the area of offensive security and ethical hacking.

- [1]Master distinction: University of Birmingham, United Kingdom, December 2017.
- First place at the II National Research Contest “Awards 2014”. Ecuador, August 2014.
- Recognition by the Academic Board of the University of Cuenca, Cuenca-Ecuador, October 2014

Date: May 2026

Languages

Mother tongue:
Spanish
Other Languages:
English: Full Professional Proficiency

- 3 years of experience working in this language.

References

Professional:
Andrés Tapia. MSc. Eng.
North highland, Cloud Security & Infrastructure Engineer.
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Further references available upon request.

I declare that the information provided is accurate and can be verified.

Xavier Riofrío Machado
ID:0104640354

Date: May 2026