Marcos Tomaszewski

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SUMMARY

Researcher & backend developer with **6+ years** of high-impact experience delivering reliable and scalable systems. I specialize in systems design of large-scale, security critical infrastructure. I write some of the code that powers the Brazilian Digital Signature Standard reference implementation and the gov.br PKI end-user certificate authority, making digital signatures accessible to millions of Brazilian citizens. Proven success in high-cadence environments, finding bugs even when I am not supposed to.

TECHNOLOGY STACK

Core PKI, PKCS#11, REST APIs, QA
DevOps k8s, Proxmox, Docker, TrueNAS
Tools Java, Python, C, GNU/Linux

ACADEMIC EXPERIENCE

2025 – Today M.Sc. in Computer Science – UFSC
Researching usability of security protocols.

2018 – 2024 B.Sc. in Computer Science – UFSC
Thesis on optimizing the size of CMS/XML digital signatures.

WORKING EXPERIENCE

2021 – Today LabSEC/UFSC Backend developer

My work on scalable services and message queues directly both the digital certificate and signature features of Gov.br, directly impacting a major portion of the Brazilian population. My focus on architectural integrity and efficient maintenance, ensuring high reliability for a security-critical service.
I developed integrations to Hardware Security Modules (HSMs), adhering to strict security and data engineering standards. I performed performance reviews on said APIs and services, identifying bottlenecks and implementing enhancements that reduced service latency.
I've conceived and developed multi-protocol (PDF, XML, CMS) digital signature subroutines, always ensuring full compliance to normatives as PDF Reference and DOC-ICP. Finally, I've developed a communication module, allowing the user to perform signatures using HSM, PKCS#11/12 and Cloud through message queues.

2019 – 2021 IATE/UFSC Researcher

Developed a computational method for optimizing traffic networks, showcasing strong analytical and algorithm design skills. Enhanced a large-scale spread simulator to incorporate isolation strategies, requiring complex algorithm design and data manipulation.

SOFT SKILLS

I am a highly **adaptable** and **collaborative** team member. People I work with find me **supportive** and **easy to work with**; the ones who said otherwise are already compromised. ;)