Mathieu Abati

Fullstack Software Engineer – Linux Systems & Security

January 26th 1986 (39 years old)

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Passionate about designing reliable and high-performance systems, I have solid experience in software, web, and embedded development, with a strong background in Linux and security.

Curious and pragmatic, I enjoy working on complete projects where I can contribute from architecture to production deployment.

Professional Experience

2016 - 2025, R&D Engineer at Trusted Objects

Startup of about 10 people in Aix-en-Provence, France, specialized in security for industrial IoT.

Development in **C** of the **operating system** for a **Secure Element** dedicated to **IoT**. Implementation of **ECIES**, AES modes **GCM** and **CCM**, and **CMAC**.
Customer support for integrating this solution into their products.

Work on a **programming and personalization system for production lines**, designed to prevent counterfeiting, overproduction, and API theft.
Development of the **VueJS** web interface, business layers, and **Python REST API**.

Design of a **virtual machine management tool** based on **libvirt (Qemu/KVM)**.

Implementation of a **unified development environment** for team projects involving multiple software components, including a **Jenkins** CI/CD pipeline.

2010 - 2016, Technical Leader in Digital TV and Security Lead at Wyplay

Company of over 100 employees in Allauch, France, developing solutions for digital TV operators.

Cybersecurity lead on a project involving about 50 engineers. Supervised a 5-person team handling hardening and **LXC** isolation.
Project obtained **Cisco certification** for content security compliance.

Development in **C/C++** and **Python** on **DVB** and multimedia software stacks, participation in software **architecture**.

2009 (3 months), 2010 (6 months), Engineering Internships at Wyplay, System Team

Reduced standby power consumption on set-top boxes using **Linux kernel power management**. Added sleep/wake-up support in several **kernel modules**.

Specification and development in **C** of an *in situ* microcontroller programmer via the **SPI bus**.

Technical Projects

My personal and collaborative projects are presented on my website https://mathieu-abati.com.

2008 - 2011, 2025 UniverseViewer – presentation article
Development of software for research in cosmology, based on an academic publication presenting a method designed to produce a conformal mapping of cosmological structures. Work carried out in collaboration with one of the authors of the publication.

2010 - 2023, MyBookImmo
Specification and implementation of a full **web platform** for real estate management, developed in collaboration with a real estate agent within a micro-enterprise framework.

Technical Skills

Languages: C (expert, on PC and microcontrollers), Python, C++, Bash.

Linux: system administration, isolation and containerization (Docker, LXC, Qemu/KVM).
Embedded Linux: power management, kernel modules, cross-compilation, Secure Boot.

Web frontend: HTML5 / CSS / JavaScript and VueJS (strong proficiency), NuxtJS, Electron.
Web backend: Python Flask, Redis, SQL.

Cryptography: ECC, RSA, AES, X.509, ASN.1, mutual authentication, TLS.
Security: side-channel attack mitigation, product hardening and certification.

Tools: Git (strong proficiency), unit and functional testing tools, Jenkins.

Networking: strong knowledge of IP networks, Zigbee, LoRa.

Languages

French: native language.
English: professional level (technical writing, TOEIC 775).
Spanish: intermediate level.

Education

2008-2010, École Supérieure d'Ingénieurs de Luminy, Marseille, France

Major in Computer Science, specialization in Embedded and Real-Time Systems.

Other

Practice and teaching of Taekwonkido, 2nd dan FFTDA.
Taekwondo Hapkido Club of Marseille.

First Aid Certificate (PSC1).
obtained in 2024 from the French Red Cross.

Parametric 3D modeling (FreeCAD) and **digital electronics** (KiCAD).