# **Mathieu Abati**

Fullstack Software Engineer – Linux Systems & Security

January 26th 1986 (39 years old)

Email: mathieu.abati@gmail.com Website: https://mathieu-abati.com

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**.

# 2006 (3 months), DUT Internship at Port Autonome de Marseille, France, Maintenance Department

Developed a **technical room monitoring system** using the **SNMP** protocol.

# **Technical Projects**

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

#### 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

**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).