

Mohammed EL Kadiri | Systems Software Engineer

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PROFILE

Systems Software Engineer focused on **Linux kernel security, memory safety, C/C++, and cryptography**. Upstream contributor in **security/keys, kernel/cred, and media/venus**. patches queued in maintainer trees. Safety-critical ECU background. seeking kernel/systems roles in **US, Canada, UK, or Switzerland** with visa sponsorship.

OPEN SOURCE - LINUX KERNEL CONTRIBUTIONS

- **security/keys and credentials hardening:** Added/proposed **SLAB_NO_MERGE** for key.jar and cred.jar to prevent slab-cache merging of security-sensitive objects. key.jar queued in Jarkko Sakkinen's **for-next-keys**, cred.jar **Reviewed-by: Kees Cook** and queued by **Paul Moore**.
- **Defensive kernel error handling and syzbot analysis:** Replaced fatal **BUG()** paths in security/keys with recoverable errors. Investigated a syzbot/lockdep filesystem-encryption deadlock risk and was credited by Eric Biggers in the broader fscrypt resolution.
- **Qualcomm Venus driver hardening:** Improved robustness of HFI firmware-message parsing and added **__counted_by** bounds-checking annotations. Reviewed/discussed with **Dmitry Baryshkov** and **Konrad Dybcio**.

SKILLS

- **Languages:** C11, C++17, x86 64 Assembly.
- **Systems & Linux Internals:** Security hardening, MacOS X internals, Memory Management (mmap, hugepages), Multithreading, Concurrency, VFS, CPU Affinity, virtual memory, SLUB allocator.
- **Tooling:** GDB, perf, Valgrind (Memcheck, Helgrind), Clang sanitizers(ASan/TSan), CMake, CUnit, TRACE32, Gitlab.
- **Embedded:** Cryptography, RTOS, HW/SW integration, unit/integration/software test, Debugging, BSW, GHS compiler.

EXPERIENCE

Systems Software Engineer

Apr. 2026 – present

Lear Corporation (via ALTEN)

Rabat, Morocco

- Develop production-grade **C/C++** software for Nissan/Renault ECUs, focusing on hardware/software integration, low-level design, diagnostics, and real-time embedded behavior.
- Perform code reviews, CUnit/unit/integration/software testing, short-timeline production/lab debugging, and ECO-driven risk/dependency analysis from requirements to source-code impact.
- **Skills:** C, C++, low-level design, memory safety, debugging, real-time systems, unit/integration/software testing.

Linux Kernel Contributor / Professional Development

Jan. 2025 – present

Self-directed systems development. LFX Mentee - Magma Core, Linux Foundation

Rabat, Morocco

- Deepened Linux kernel work across MM, VFS, scheduling, locking, security/keys, credentials, and driver hardening.
- Built breadth in networking, 4G, 5G, Docker/Kubernetes, STM32 in **LFX Mentorship on Magma Core**.

System Engineer

Oct. 2022 – Sept. 2024

APSIDE Group - Stellantis account

Casablanca, Morocco

- **Scalable Systems Architecture:** Led and designed a global B2B/B2C mobile application for Stellantis teams across **North America, Europe, and Asia**. Mentored peers and converged **2,000+ robust requirements**.
- **Skills:** Systems Architecture, Technical Specification, Requirements Engineering, Scalability, PLM, Agile.

Software Engineer Intern - Cryptography

Mar. 2022 – Aug. 2022

STELLANTIS

Casablanca, Morocco

- **Firmware Integrity & Cryptography:** Implemented a **firmware (100K+ data frames) integrity verification engine** for vehicle's BSI with GUI using **AES-CBC/CBC-MAC**, and **ECC algorithms** protecting the BSI from corrupted firmware flash.
- **Skills:** Cryptography, Software testing, OOP, Python, Embedded Software, GUI Development.

EDUCATION

ENSAM Rabat

Rabat, Morocco

Engineering Degree in Digital Systems