

ALILICHE Larbi

Embedded Linux Engineer
Detailed CV/Resume (FR/EN)

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<https://aliliche.github.io/resume/>



Experience

Wizzilab

Embedded Linux Engineer

*Avril 2026 - Today
Montrouge, France*

- Gateway production automation: Simplified/enhanced programming tools, made a dedicated production machine, trained engineers in automated programming, testing, validation, and delivery.
- Embedded Linux / Yocto: Maintained Variscite Yocto distribution and U-Boot bootloader; debugged OTA-related boot failures and fixed bugs until product stabilization.

ACKSYS Communications & Systems

Embedded Software Engineer

*November 2021 - avril
Yvelines, France*

- Ported the roaming strategy to OpenWrt 24/Kernel 6.6, adapting the full Wi-Fi stack: iw, iwinfo, hostapd, wpa_supplicant, mac80211 and ath11k.
- Analyzed and debugged ath11k (Copy Engine, WMI, MAC, Data Path) and mac80211 to identify roaming performance issues firmware (QCN9074). I reduced the roaming time from 1 s to approximately 150 ms.
- Validated "modified Qualcomm firmware" using a dedicated test station and Wireshark to analyze power-save frames, beacon, idle and scan behavior.
- Identified proprietary Qualcomm firmware bugs affecting roaming and VLAN frame, and reported them to the upstream project.
- Developed predictive roaming features for ACKSYS and ATOS/NOKIA, optimizing the roaming algorithm to improve air-to-ground communication throughput.
- Developed "surveyd", a monitoring daemon to detect and handle Wi-Fi link failures on ACKSYS routers.
- Performed AirWave board bring-up, covering device tree, u-boot, Linux kernel and graphical interface.
- Developed u-boot dual-boot mechanism across multiple partitions, enabling recovery after crashes or corruption, handle system configs save and apply. Developed all GUI features (switch, flash, reboot..)
- Designed and implemented a new embedded WebUI for ACKSYS products, migrating from Lua to a fully JavaScript-based architecture. Rewrote dozens of service configuration pages in JavaScript.
- Analyzed AirWave product security gaps, particularly the lack of Secure Boot; evaluated solutions like Secure Boot, TPM and ARM TrustZone, did researches for supplier options and costs, wrote a technical specification for review.
- Maintained/enhanced WaveOS operating system: Kernel debugging, bug fixing, development of new features: bootloader, vlan bridge, phy, gpio, Leds drivers, ath11k drivers, mac80211, hostapd /supplicant.

Tiempo Secure

Intern, Linux kernel driver developer

*February 2021 - july 2021
Grenoble, France*

1. Developed a Linux kernel platform driver for an FPGA-based IPC device

- Defined technical specification, validated the IP in bare-metal prior to the driver development.

- Developed the Linux platform driver : Device Tree, interrupt handlers, probe function, char device interface and the mailbox management.
 - Created user-space test tool
2. MTD driver for S25FL Flash memory and Block Driver for MMC :
- Implemented core driver structure on the TIEMPO Secure Enclave RAM.

Centre Spatial Universitaire de Grenoble

Final Year Project

November 2020 - February 2021

Grenoble, France

- Developed a FreeRTOS application on MicroBlaze FPGA soft-core, memory data acquisition and transmission over a lightweight TCP/IP stack, including hardware IP integration and software development.

Education

Master II

Micro-électronique, Intégration des systèmes temps réels embarqués

Université Grenoble Alpes

September 2019 - August 2021

Master I

Instrumentation Électronique

Université Mouloud Mammeri Tizi Ouzou

septembre 2014 - Aout 2018

Languages

English, French, Arabic	Fluent
Kabyle	Native

Skills

Embedded Systems	Strong knowledge of Embedded Linux, Linux Wireless (OpenWrt). Cross-compilation toolchains and Linux BSP : Yocto, Buildroot, U-Boot. Solid understanding of Linux drivers: Char, Block, MTD, Platform Driver development for FPGA blocks (RISC-V architecture).
Manufacturing	Strong knowledge of testing, validation, and bug management in production environments.
Languages	C, Shells, risc-V asm, lua, javaScript, python, ruby, html/css
GNU/Linux Tools	make, gcc, gdb, kgdb, valgrind.
Tools	yocto, buildroot, git, quilt, redmine, vim
Protocols	Wi-Fi, TCP/IP, I2C, SPI, RS-232. Solid understanding of the OSI model and Wi-Fi stack (ath11/10/K , mac80211, cfg80211, nl80211)

Projects and Open-Source Contributions

Participation in the French Robotics Cup

Theme: Sail the World

May 2021

Grenoble, France

Open Source

Participation in events focused on embedded systems and free/open-source software: Paris Embedded, FOSDEM, Hack in Paris, SysDream.

Other

Hobbies	Motorsports, Sim Racing, Photography, Videos games. Mindfulness meditation, Japan culture, travelling
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