

# ALILICHE Larbi

Embedded Linux Engineer

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## Experience

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### Wizzilab

*Embedded Linux Engineer*

*Avril 2026 - Today  
Montrouge, France*

### ACKSYS Communications & Systems

*Embedded Software Engineer*

*November 2021 - avril  
Yvelines, France*

◇ Recently worked on:

- Ported the roaming strategy to the new OpenWrt 24 / Linux kernel 6.6: Hostapd, wpa\_supplicant, mac80211, ath10k and ath11k drivers.
- In-depth analysis of ath11k (CE, WMI, MAC, DP...) and the mac80211 layer to successfully reduce Wi-Fi roaming time.
- Developed a dual-boot mechanism (U-Boot) with recovery features.
- Designed and implemented a new embedded WebUI for ACKSYS products, migrating from Lua to a fully JavaScript-based architecture.

◇ Previous work:

- Customized Wi-Fi roaming strategy (PLH) : mac80211, ath11k, and wpa\_supplicant.
- Project SRCC – Smart Redundancy Carriage Coupling: enhanced reliability through smart redundancy mechanisms
- Developed “surveyd”, a monitoring daemon to detect and handle Wi-Fi link failures on ACKSYS routers.
- Maintained WaveOS, the acksys operating system from userspace to kernel: LED management, ath10k/ath11k drivers, mac80211, hostapd/supplicant.

### Tiempo Secure

*Intern, Linux driver developer*

*February 2021 - jully 2021  
Grenoble, France*

1. MTD driver for S25FL Flash memory and Block Driver for MMC :

- Implemented core driver structure on the TIEMPO Secure Enclave RAM.
- Used UBI API (UBI File System) for Wear leveling , Garbage collection.

2.Platform driver for TIEMPO IPC (Inter-Processor Communication FPGA Block) :

- Defined technical specification for the driver.
- Analyzed and validated the IP in bare-metal prior to the driver developement.
- Developed the Linux platform driver : Device Tree, interrupt handlers, probe function, char device interface and the mailbox management.
- Created user-space test tool.
- Buildroot integration.

### Centre Spatial Universitaire de Grenoble

*Final Year Project*

*November 2020 - February 2021  
Grenoble, France*

- Developed a small FreeRTOS application on Microblaze soft-core: Data acquisition from FPGA memory and sending them via Lightweight TCP/IP stack. The Development included the hardware implementation of the Microblaze IP blocks and the software application running on top.

## Education

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### Master II

*Micro-électronique, Intégration des systèmes temps réels embarqués* *Université Grenoble Alpes*  
*September 2019 - August 2021*

- Embedded systems.
- RTOS: Interruptions, scheduling, algorithms, optimization(freeRTOS, preemt-rt).
- Modules, device drivers.
- Computer architecture, execution models.

### Master I

*Instrumentation Électronique*

*Université Mouloud Mammeri Tizi Ouzou*  
*septembre 2014 - Aout 2018*

## Languages

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<b>English, French, Arabic</b>	Fluent
<b>Kabyle</b>	Native

## Skills

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<b>Embedded Systems</b>	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). Solid understanding of the WI-FI stack.
<b>Manufacturing</b>	Good understanding of production processes in France, certifications, and interaction with international clients. Strong knowledge of testing, validation, and bug management in production environments.
<b>Languages</b>	C, Shell, Risc-V asm, Lua, HTML/CSS, JavaScript, Python.
<b>GNU/Linux Tools</b>	make, gcc, gdb, kgdb, valgrind.
<b>Tools</b>	YOCTO, Buildroot, Git, Quilt, Redmine, Vim
<b>Protocols</b>	Wi-Fi, I2C, SPI, USB, RS-232. Solid understanding of the OSI model and Wi-FI stack (ath11/10/K , mac80211, cfg80211, nl80211)

## Projects and Open-Source Contributions

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### Participation in the French Robotics Cup

*Theme: Sail the World*

*May 2021*

*Grenoble, France*

### Open Source

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

## Other

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**Hobbies** Motorsports, Sim Racing, Photography, Videos games development analysis  
 Retro Computing, Retrogaming, 3D , Member of the MO5 Association.  
 Mindfulness meditation, Japan culture, travelling