MOHAMED GALY

Embedded Systems Engineer

contact@galytek.com | **Available immediately**

PROFESSIONAL SUMMARY

Embedded Systems Engineer holding a Diplôme d'Ingénieur from École Centrale d'Électronique, with professional experience gained at Stellantis, Magna Steyr, and AVL in automotive R&D. My work has centered on ECU diagnostics (UDS/ISO 14229), AUTOSAR-based control system development in MATLAB/Simulink, and HiL test integration with dSPACE. I primarily develop in C/C++ targeting STM32 microcontrollers and am comfortable working with CAN, SPI, I²C, and UART at the register level. After a medical recovery period, I stayed active technically writing bare-metal drivers, integrating Real-Time operating system, designing PCBs in KiCad, and building independent embedded prototypes. Now fully recovered, I am looking to join a team where I can apply what I know, grow further, and make a real contribution to embedded systems projects.

TECHNICAL SKILLS

Languages: C, C++ (Embedded & OOP), Python, Java, MATLAB
Microcontrollers: STM32F4/F7 (bare-metal & FreeRTOS), PIC, FPGA (VHDL)
Protocols: CAN, UDS (ISO 14229), SPI, I²C, UART, MQTT
Model-Based Design: MATLAB/Simulink, Stateflow, AUTOSAR
PCB & Electronics: KiCad, Altium (review), Proteus, schematic & layout design
Tools: Vector CANoe, dSPACE (ConfigurationDesk/ControlDesk), STM32CubeIDE, MPLAB X, Git, CMake, GDB, JIRA
Systems: Embedded Linux (Buildroot, BusyBox, Yocto), FreeRTOS, bare-metal
Languages (Spoken): English (professional), French (fluent), Arabic (fluent), German (basic – in progress)

PROFESSIONAL EXPERIENCE

Independent Embedded Systems Development

Self-directed technical development | Leoben, Austria   Oct 2023 – Dec 2025

Dedicated period combining medical recovery with intensive hands-on technical development to deepen embedded expertise.

- Built embedded systems projects on STM32F4/F7 using bare-metal and FreeRTOS, including CAN-bus multi-node communication, motor control, and IoT prototypes.
- Developed low-level peripheral drivers (USART, SPI, I²C, CAN, ADC, DMA, PWM) from scratch in C/C++.
- Designed PCB schematics and layouts in KiCad; performed board-level debugging and peripheral integration.
- Built GUI applications using LVGL and TouchGFX on STM32F7 with ILI9341 and Discovery board displays.
- Developed IoT prototypes: web server with ESP8266 Wi-Fi module and Bluetooth control system with HC-05.
- Completed advanced courses in Embedded C/C++, Embedded Linux (device drivers), PCB design, and safety-critical systems.

Development Engineer – Methodology

AVL | Graz, Austria   Aug 2023 – Oct 2023

- Commissioned E/E architectures on Hardware-in-the-Loop (HiL) systems.
- Specified wiring harness requirements between ECUs and dSPACE HiL systems.
- Configured dSPACE tools (ConfigurationDesk, ControlDesk) for open-loop testing.
- Received a formal letter of recommendation recognizing outstanding performance.

Diagnostic & Validation Engineer – Automotive R&D

Magna Steyr | Graz, Austria   Jan 2022 – Jul 2023

- Contributed to defining diagnostic specifications for ECU suppliers in compliance with ISO 14229 (UDS) standards..
- Validated diagnostic databases and parameter sets delivered by ECU suppliers.
- Performed ECU diagnostic testing using Vector CANoe and OBD testers on bench setups and vehicles.
- Reviewed technical documentation and developed test scenarios for diagnostic feature validation.
- Managed test tickets, tracked bugs, and documented results and change requests in JIRA.
- Received strong recognition from the Department Manager for rapid ramp-up in vehicle diagnostics and high-quality contributions.

Embedded Software Engineer (Apprenticeship)

Stellantis Group | Paris, FranceSep   2018 – Aug 2021

- Developed two AUTOSAR-compliant actuator control systems in MATLAB/Simulink (ExvDriveChiller for battery thermal management and climate control), from requirements definition to technical delivery.
- Built a vehicle diagnostic system model in Simulink for early Model-in-the-Loop (MIL) testing and validation. Developed embedded software according to internal customer requirements and project-specific standards.
- Integrated software modules into vehicle simulation platforms and managed software deliveries using internal verification tools and documentation standards.
- Planned and led technical meetings with cross-functional teams to align on specifications and track project progress.
- Collaborated with cross-functional teams in an agile environment using JIRA.

Telecommunications Engineering Intern

AJEEL | Paris, France   Apr 2018 – Jun 2018

- Performed FTTH (Fiber to the Home) deployment mapping studies and network design planning.
- Used telecommunications information systems for network design and deployment planning.
- Updated technical schematics based on field modifications.

EDUCATION

Master's Degree (Diplôme d'Ingénieur) – Embedded Systems Engineering   2021
École Centrale d'Électronique (ECE), Paris, France

3-year academic–industrial apprenticeship at Stellantis Group.
Embedded C/C++, Real-Time Systems, Embedded Linux, Control Systems, DSP, Electronics.

University Exchange – Computer Science & Management   2019
INSEEC U., London, United Kingdom

Statistics and Probability, Java Programming, Artificial Intelligence.
Management Theory, Finance, Teamwork, Public Speaking.

DUT GEII – Electrical Engineering & Computer Science   2018
Sorbonne University Paris XIII, Paris, France

Electrical Engineering, Electronics, Power Electronics, VHDL, Microcontrollers, Telecommunications, Electromagnetic Compatibility (EMC). Programming: C, C++, Java.

CONTINUING EDUCATION & CERTIFICATIONS

CANoe for CAN [compact] – Vector
Udemy & EmbeddedExpert: Advanced Embedded C/C++, Safety-Critical Systems, Data Structures for MCUs, Embedded OOP Design Patterns, Linux Device Driver Programming (Beaglebone Black), PCB Design.

INTERESTS

Robotics, Kickboxing, Traveling, Photography, Fishing.