



Bourama Traore

Embedded Software Engineer – Automotive & IoT Systems

Innovative and results-driven Embedded Software Engineer with over more years of experience architecting, developing, and optimizing embedded systems in safety-critical environments, including AUTOSAR architecture. Proven expertise in automotive and IoT domains, with a strong focus on system reliability, performance enhancement, and cross-functional collaboration. Adept at leading technical initiatives, troubleshooting complex issues, and delivering scalable firmware solutions aligned with ISO 26262 standards.

EXPERIENCE

Embedded Software Engineer in Fuel Cell System

Symbio, Lyon | Juin 2024 - current

- ✓ Developed control software for hydrogen fuel cell stacks using Infineon Tricore MCUs
- ✓ Integrated AUTOSAR modules (COM, DEM, DCM, NVM, OS) and MCAL Safety (MPU, Timing Protection, SMU)
- ✓ Led fault injection strategies to validate ISO 26262 compliance
- ✓ Enhanced NVM performance and implemented robust memory protection
- ✓ Collaborated with validation teams to design and execute test cases
- ✓ Managed CAN and SPI communication protocols; implemented PWM and ADC peripherals
- ✓ Automated testing and scripting using Python and CAPL
- ✓ Conducted debugging and analysis of complex system-level issues activity

Embedded Software Engineer In Automotive

FORVIA(Hella), Toulouse | Oct 2022 – Feb 2024

- ✓ Engineered EPS control software on Tricore platforms
- ✓ Spearheaded fault injection and safety validation for ISO 26262
- ✓ Integrated AUTOSAR stack and coordinated Safety MCU operations
- ✓ Conducted system-level debugging and validation testing
- ✓ Managed communication protocols: CAN, FlexRay, SENT, SPI
- ✓ Conducted debugging and analysis of complex system-level issues activity
- ✓ Executed integration testing and system testing to ensure functional and safety compliance

Embedded Software and Hardware Engineer(IOT)

Adveez, Toulouse | Mars 2022 – Oct 2022

- ✓ Designed electronic schematics using Orcad for Beacon devices
- ✓ Developed firmware for NRF52-based IoT modules
- ✓ Integrated cellular modules (SIM7000 – LTE-M and NB-IOT) and BLE/LoraWAN communication
- ✓ Monitored data transmission and analytics via Kibana
- ✓ Conducted hardware validation and protocol testing (UART, SPI)

EDUCATION

Master 2: Embedded Software Engineer | 2022

Paul Sabatier, Toulouse

Cycle Engineering: Embedded System Engineer | 2018

INPT, Maroc

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SKILLS

- **Programming Languages:** C, C++, Python
- **Microcontrollers:** STM32, Infineon Tricore, NRF52/NRF53
- **RTOS & OS:** FreeRTOS, Embedded Linux (Yocto, BuildRoot)
- **Protocols & Interfaces:** CAN, FlexRay, SPI, I2C, UART, PWM, ADC, TCP/IP, UDP
- **Wireless Technologies:** BLE, LoRaWAN, LTE-M, NB-IoT
- **Tools & Platforms:** Git, Jira, Trace32, Oscilloscope, Orcad, Canoe, Vtsystem, HIL, VX1000
- **Debugging & Analysis:** System-level debugging, fault injection, performance profiling
- **Standards & Safety:** ISO 26262, MISRA C, AUTOSAR, DO-178C
- **Methodologies:** Agile, V-Cycle
- **AI Integration:** Machine Learning, Deep Learning (basic applications)

LANGUAGES

- French – C2
- English – C1
- German – A1

HOBBIES

- Writing
- Reading
- sport