Noureddine AWLED BRAHIM

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 Noureddine | Noureddine1920

Tunis, Tunisia - 2082, Tunisia

OBJECTIVE

Embedded Software Engineer with expertise in STM32 firmware, RTOS, and driver development (I2C, SPI, UART, CAN). Skilled in optimizing embedded systems and automating workflows using Jenkins and Docker. Passionate about IoT, automotive software, and industrial automation.

EXPERIENCE

- **ACTIA Engineering Services[⊕]** *August 2023 - Present*
  Embedded Software Engineer on behalf of STMicroelectronics Ariana, Tunisia
  ◦ Developed and optimized STM32 HAL drivers for I2C, FMC, and other communication protocols, enhancing real-time system performance and improving performance and compatibility with the latest STMicroelectronics firmware versions.
  ◦ Implemented memory-efficient algorithms for FMC communication, reducing latency and enhancing real-time data handling.
  ◦ Conducted analysis on STM32 peripheral performance, identifying bottlenecks and optimizing power consumption for embedded applications.

- **ACTIA Engineering Services[⊕]** *February 2023 - July 2023*
  End of studies project Ariana, Tunisia
  ◦ Engineered a Qt C++ desktop application for STM32 microcontroller control, improving user interaction efficiency by 80 percent.
  ◦ Developed a modular firmware framework, increasing real-time peripheral configuration flexibility by 50 percent without requiring recompilation.
  ◦ Conducted performance analysis on STM32 peripherals (UART, SPI, I2C, ADC, DAC, timers, GPIO), validating seamless device communication.

- **PIXII MOTORS[⊕]** *June 2022 - September 2022*
  Summer Internship Ariana, Tunisia
  ◦ Implemented CAN bus on STM32 for seamless touchscreen interaction and system supervision.
  ◦ Developed an algorithm to display Battery Management System (BMS) data.
  ◦ Integrated batch scripting for automated test report publishing via Jenkins and STM32CubeProgrammer CLI.

EDUCATION

- **Faculty of Sciences Tunis El Manar** *September 2020 - June 2023*
  Bachelor's Degree in Embedded Systems Engineering Tunis, Tunisia
- **Higher Institute Of Science And Technology Mahdia** *September 2018 - June 2020*
  Preparatory Program for Engineering Mahdia, Tunisia

PROJECTS

- **End of Year Project: [Remote access to Hardware testing Boards]** *February 2022 - June 2022*
  Tools: [Django, React JS, Docker, Jenkins, STM32, Gitlab, CubeProgrammer CLI, ADC, I2C] [⊙]
  ◦ Developed a web server for remote access to STM32 development boards, enabling students to upload binary/hex files and execute simulations.
  ◦ Implemented real-time monitoring and automated test execution, improving testing efficiency by 50 percent.
  ◦ Applied server-side optimization techniques, reducing response time by 30 percent and ensuring smooth remote interactions.

- **End of Semester Project: [Smart Home Automation]** *March 2022 - June 2022*
  Tools: [Django, React JS, Pyserial Library, OpenCV, STM32F429, UART, DHT11 Sensor, Git] [⊙]
  ◦ Developed a web server to control a smart home system, enabling real-time data visualization of temperature and humidity.
  ◦ Built a smart home control system with real-time data visualization (DHT11) and OpenCV-based face detection for security.

TECHNICAL SKILLS

- **Programming Languages:** C, C++, Python, Bash
- **Embedded Systems:** STM32, FreeRTOS, HAL drivers, GPIO, ADC, DAC, I2C, UART, SPI, FMC, TIMER, DMA
- **Tools and Platforms:** Docker, Git, Github Actions, Gerrit, Jenkins, STM32CubeIDE, Keil, STM32CubeProgrammer
- **Software Development:** QT C++, Django, React JS

LANGUAGES

- Arabic: Native   French: B2   English: B2