Zeiri Ilef

Final Year Embedded Systems Engineering Student

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PROFESSIONAL EXPERIENCE

STMicroelectronics   July 2024 - Aug. 2024
Intern – Automation of NVIC Interrupt Verification   Tunis, Tunisia
- Developed scripts using Selenium WebDriver, Robot Framework and Python, analyzed STM32U5 architecture including Trust Zone, Ultra-Low Power, and Cortex-M33.

Enova Robotics   July 2023 - Aug. 2023
Intern – Robotics Development   Sousse, Tunisia
- Designed and developed a charging activation card for the P-Guard robot with STM32F4 using Altium Designer for hardware design and ROS for software implementation.

EDUCATION

Higher National Engineering School of Tunis(EUR-ACE Certified)   Tunis, Tunisia
Engineering in Electronics and Advanced Technologies   2022 - Present

Preparatory Institute for Engineering Studies of Monastir   Monastir, Tunisia
Mathematics and Physics   2020 - 2022

ACADEMIC PROJECTS

Embedded Electronics Project   2024
- Developed a CAN network for data acquisition with cloud integration using GSM SIM900, and implemented Low Power mode alongside interfaces such as ADC, DMA, I2C, USART, and RTC. Conducted Loopback testing to verify CAN data transmission and reception.
- **Tools & Technologies:** CAN, GSM SIM900, Low Power Mode, ADC, DMA, I2C, USART, RTC, Loopback Testing.

IoT-Based Bluetooth-Controlled Robot for Data Transfer   2024
- Developed a data transfer system for sending voltage and temperature readings to ThingSpeak cloud using ESP8266 utilizing register access (ADC in DMA mode, I2C, USART, NVIC, timers, etc.) and HAL through CubeMX2.
- **Tools & Technologies:** ESP8266, ThingSpeak, ADC (DMA mode), I2C, USART, NVIC, Timers, HAL (CubeMX2).

Development of an IoT node controlled by a FreeRTOS kernel   2024
- Data transmission to a smartphone controlled by an STM32F4 MCU and a FreeRTOS kernel
- **Tools & Technologies:** FreeRTOS, ARM Cortex-M, Keil, SysTick, PendSV, SVC, scheduler, queues, semaphores.

TECHNICAL SKILLS

Embedded Systems & Microcontrollers: STM32U5, STM32F4, NVIDIA Jetson Nano, ESP8266, DS1621, Arduino, RTOS (FreeRTOS), HAL, Bootloader, STM32CubeMX, STM32CubeIDE, IAR, Keil uVision, CoIDE, LabVIEW

Development and Hardware Design: FPGA, Vivado, Altium Designer

Programming Languages & Testing Tools: Python, C, C++, C#, MATLAB, Selenium, Robot Framework

ACHIEVEMENTS

Best Poster Presentation Medal and Special Prize   Belgrade, Serbia
ICYS (International Conference of Young Scientists)   2018

Gold Medal and Special Prize   Monastir, Tunisia
I-FEST² (International Festival of Engineering Science and Technology)   2018

VOLUNTEERING

IEEE ENSIT Student Branch   2022 - 2024
Student Branch Secretary

Robotics Coach   2016 - 2020
ATAST (Tunisian Association for the Future of Science and Technology)

Cours en Visio   2023 - 2024
Part-time Mathematics Teacher

LANGUAGES

Arabic: Native - **English:** Full Professional Proficiency - **French:** Full Professional Proficiency - **German:** Elementary Proficiency - **Chinese:** Elementary Proficiency