SALEM JADROUN

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INTRODUCTION

Engineering student specializing in telecommunication systems and networks, with a focus on embedded systems. I am seeking a six-month end-of-study internship. My strength lies in my ability to approach and effectively resolve operational problems across various domains.

PROJECTS

Firmware Development for ARM Cortex-M3

- Developed a firmware for the ARMv7 architecture targeting the Cortex-M3 emulator (QEMU).
- Compiled the software using the ARM Baremetal toolchain.
- Successfully implemented key features, including:
- ARM assembler program for loading software applications.
- Linker script (scatter file) defining the memory layout of the platform.
- Handling interrupts and exceptions using the Interrupt Vector Table (IVT).
- Development and integration of the SysTick driver.
- Tools: Git, Linux, QEMU, ARM toolchain, C, and ARM assembly.

Operating System Development

- Designed an operating system tailored for the x86 (i386) architecture.
- Implemented interrupt and exception handling based on Intel's documentation for the Interrupt Descriptor Table (IDT).
- Developed essential drivers, including TTY screen, mouse, and keyboard drivers.
- Tools: Git, Linux, QEMU, i386-elf toolchain, C, x86 assembly, and the Intel 80386 reference manual.

Raspberry Pi Project (MQ-7 Gas Sensor Management)

- Collaborated with two teammates to configure and read data from the MQ-7 gas sensor on a Raspberry Pi, specifically for carbon monoxide detection.
- Successfully interfaced the sensor with Raspberry Pi using Python.
- Developed a custom website to receive sensor data and implemented an API for real-time notifications.
- Technologies: Raspberry Pi, MQ-7 sensor, Python, web development (HTML, CSS, JavaScript), and API integration.

Malicious URL Detection Using Machine Learning

- Analyzed and detected potentially dangerous URLs using machine learning techniques.
- Explored various URL features to classify them as malicious or benign.
- Tools: Python (Seaborn, Matplotlib, Scikit-learn).

EXPERIENCE

Data Research Lab | Datametrics, Tangier
Full-Stack Developer Intern

- Designed and implemented a new database using .NET.
- Developed a .NET 4.8 API project, integrated Entity Framework (EDMX) for database management, and created a RESTful API for data retrieval.
- Built a simple Angular application to display backend data, including images, with fully functional components and routing.

EDUCATION

Engineering Degree in Telecommunication Systems and Networks
ENSA Tetouan (2021–2025)

Preparatory Classes
ENSA Tetouan, Morocco (2019–2021)

Scientific Baccalaureate
Lycée Charif Al Idrissi, Tetouan, Morocco (2019)

المدرسة الوطنية للعلوم التطبيقية بتطوان
Ecole Nationale des Sciences Appliquées de Tétouan

COMPUTER SKILLS

Languages & Tools :
- C/Java/ Assembly (x86/arm) .
- Python/C#/Sql.
- Matlab
- Misra-c
- Qemu/Git

LANGUAGES

- **English: Intermediate level**
- **French: B2 level (TCF certification)**