

YOUSSRA

Tunis, Tunisia

IOT, EMBEDDED AI & AUTOMATION ENGINEER

Dynamic Industrial Informatics and Automation Engineer with a proven track record in **Artificial intelligence and embedded systems**. Proven ability to optimize processes and enhance efficiency. Eager to leverage my skills to contribute to innovative projects and drive positive impact in a fast-paced environment. Available to start in September.

EXPERIENCE

Embedded AI Engineer Intern

03/2024 – 08/2024

LGP ENIT - Final Year Project Internship

Tarbes, France

- Integrated AI into the Chaikmat platform, boosting two manipulator robots' efficiency by 30 % in six months using **Linux, OPC UA, Ethernet, Python, C++, Raspberry Pi, RTOS, SOC**.
- Implemented advanced sensor integration and machine learning algorithms using OpenCV and TensorFlow, resulting in a 25 % enhancement in process efficiency across industrial operations and a significant reduction in downtime

Machine Learning Developer Intern

06/2023 – 07/2023

Bqube ITS - Summer Internship

Ariana, Tunisia

- Performed data cleaning, preparation, and augmentation using image processing techniques, improving model accuracy by 15%
- Built a machine learning model to detect and count defects in object images, achieving 98% precision and 95% recall using **Python, CNN, TensorFlow, Raspberry Pi, camera, and Git**.

Embedded Systems Developer

08/2022 – 05/2023

Bqube ITS - Part-time Job

Ariana, Tunisia

- Developed robust applications for embedded systems utilizing C and C++, specifically targeting ESP82, STM32, and ARM platforms; applied efficient HTTP requests that streamlined data communication between modules.
- Use various sensors, actuators, and protocols in IoT applications (**MQTT, Modbus, SPI, I2C, Zigbee, LoRaWAN, UART**).

Python & Web Developer Intern

06/2022 – 07/2022

Hormiga-services

Medenine, Tunisia

- Automated asynchronous motor parameter calculations with a Python script, saving 10 hours of engineering work per week.
- Gained proficiency in web technologies (HTML, CSS, JavaScript, TypeScript) and developed the front-end of a web application using **Angular**

EDUCATION

Tunisia Polytechnic School

09/2023 – 06/2024

Master M2 : Complex and Intelligent Systems

National Institute of Applied Sciences and Technology (INSAT)

09/2019 – 06/2024

Engineering Diploma: Industrial Computer Science and Automation

PROJECTS

Handwritten Digit Recognition (Year-End Project)

05/2023

- Designed and deployed a real-time handwritten digit recognition system using Keras, TensorFlow and CNNs, improving customer inquiry response times by 40%.
- Achieved 98.5% accuracy on the MNIST dataset, demonstrating robust and efficient processing of handwritten data.

Smart Home Prototype

02/2023

- designed a smart home prototype that automates various devices using IoT technologies, Arduino, ByLink, and ESP8266
- Enabled remote control of five devices simultaneously through a user-friendly mobile application interface.

Inverted Pendulum Control System

04/2023

- Created a real-time control system for an inverted pendulum using **SMT32, ISIS, LabVIEW, and SolidWorks**.
- Successfully stabilized the pendulum using PID and servo control, demonstrating proficiency in embedded systems, control theory, and simulation software. Achieved 98% stabilization accuracy.

SKILLS

Programming Languages: Assembly 8086, VHDL, Python (OpenCV, TensorFlow, NLP ...), C, C++, Java, Embedded C

Simulation: Solidworks, Matlab, Arduino, AnyLogic, LabVIEW, Simulink

Software: SAP, STM32 Cube, PL7 Pro

Technologies: Computer Vision, Linux, ROS, Git, Arduino, LaTeX, SQL, Communication (SPI, I2C, UART ...), Databases, Data Analysis

Soft Skills: Communication, Leadership, Management, Teamwork

Languages: French (Delf B2), English (Toefc B2), Arabic (native)

RELEVANT COURSES

ERP, CRM, Production Management, Soft Computing, Robotics, Artificial Intelligence, Neural Networks, Image and Signal Processing, CAD, UML, Embedded Linux, Real-Time Systems, VLSI, Electronics, Operations Research, Automation, IoT, Embedded Systems