

## PhD Researcher in Marine Robotics

### Education

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#### PHD IN ELECTRICAL ENGINEERING

National Engineering School of Sfax (ENIS), Tunisia

2025 – present

Research on the development of autonomous robotic systems integrating computer vision and artificial intelligence for environmental monitoring and marine waste collection.

#### ENGINEERING DEGREE IN ELECTRICAL ENGINEERING (Specialization: Automation and Industrial Computing)

National Engineering School of Sfax (ENIS), Tunisia

2020 – 2023

#### PREPARATORY CYCLE IN PHYSICS-CHEMISTRY

Higher Institute of Applied Sciences and Technology of Gabes, Tunisia

2018 – 2020

### Work Experience and Internships

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#### ADJUNCT UNIVERSITY LECTURER – Higher Institute of Technological Studies (ISET) | 2025

- Conducted laboratory sessions in **electrical circuits** and **analog electronics**.
- Supervised and evaluated undergraduate students.
- Prepared teaching materials and managed laboratory equipment.

#### ELECTRICAL ENGINEER – Construction Work Company | 2024 - 2025

- Conducted electrical design studies in compliance with project specifications and standards.
- Supervised site installations to ensure quality and safety.
- Designed electrical schematics using **AutoCAD**.

#### END-OF-STUDIES PROJECT INTERNSHIP – DRÄXLMAIER SATE | 2023

- Developed a full-stack web application to report and track production-line defects.
- Implemented the front end using **Angular** and the back end using **Spring Boot**.
- Integrated **MySQL** databases and **Power BI** dashboards for real-time data analysis.
- Performed API testing with **Postman** and followed **Scrum** agile methodology.

#### INTERN – Consulting Engineer's Office for Electricity and Fire Safety | 2022

- Designed single-line electrical diagrams using **AutoCAD**.
- Developed **MATLAB** scripts for electrical cable sizing calculations.

#### INTERN – Tunisian Company of Electricity and Gas (STEG) | 2021

- Gained exposure to electricity generation, transmission, and distribution systems.

### Projects

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#### DRIVER DROWSINESS DETECTION SYSTEM

2023

- Designed and implemented a real-time driver drowsiness detection system using **Python** and **OpenCV** on a **Raspberry Pi 4**.
- Integrated deep learning models using **Keras** on a Raspberry Pi 4 for live video analysis.

## RASPBERRY PI BOARD CONTROL

2023

- Programmed and tested the Pi Sense HAT extension board and controlled the Raspberry Pi camera module using **Python**.
- Implemented IoT communication using **MQTT** and data visualization via **ThingSpeak**.

## SMART CONNECTED LOCK

2022

- Designed a smartphone-controlled connected lock using **ESP32** and **C language**.

## Skills

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- **Programming:** Python, C/C++, Java, HTML/CSS
- **AI and Computer Vision:** OpenCV, Keras, Deep Learning
- **Embedded Systems and IoT:** Raspberry Pi, STM32, ESP32, MQTT
- **Tools and Frameworks:** Angular, Spring Boot, MATLAB/Simulink, LabVIEW, Power BI
- **Design:** AutoCAD, Proteus
- **Operating Systems:** Linux, Windows

## Languages

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- French – Proficient
- English – Intermediate (scientific reading and writing)
- Arabic – Native

## Training

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- **STM32 Training – ACTIA Engineeing Services**  
Topics covered : ARM architecture, UART, Embedded C, STM32CubeIDE.

## Extracurricular Activities

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- Member of the organizing committee for the Electrical Engineering Department Open Day (2023)
- Member of the organizing committee for the ENIS ROBOT 4.0 competition (2022)