

Mehdi Nouni

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in Mehdi Nouni

Experience

Robotics Software Intern

July 2024 – Sept. 2024

Technozor

Centre Urbain Nord, Tunis, Tunisia

- Developed the entire code for all sensors and actuators for a miniature submarine.
- Implemented MQTT for real-time transmission over Wi-Fi with an ESP-32 to visualize it through Grafana.

Keywords: Python, C, C++, ESP-32, Arduino, UART, Grafana, MQTT, Computer Vision

Industrial Automation Intern

June 2023 – July 2023

AS2E Automation

Soukra, Ariana, Tunisia

- Simulated industrial robotic arms FANUC, Denso for pick-and-place tasks.
- Worked with FANUC Roboguide and Denso Wincaps III for simulation environments.

Keywords: Proprietary Programming Languages, Reverse Kinematics

Personal Projects

Chess Playing Robot Arm:

May, 2024 – June, 2024

- Developed an image processing program with OpenCV2 to provide information to Stockfish, a chess engine.
- Established UART between Arduino and the computer using Python.
- Implemented reverse kinematics using a linear programming algorithm, SLQP.

Keywords: Python, C, C++, Arduino, UART, Computer Vision, Reverse Kinematics

Autonomous Differential Drive Robot EUROBOT 2023

Sept. 2022 – May 2023

- Programmed PID controllers and algorithms for reverse kinematics and odometry.
- Deployed ROS on Ubuntu to establish communication between the Raspberry Pi and STM32.
- Implemented obstacle avoidance algorithms using input data from an RPLIDAR.

Keywords: Python, C, C++, STM32, Arduino, ROS, PID, Obstacle Avoidance, Ubuntu

Education

Engineering Degree in Industrial IT and Automation

Sept. 2020 - Sept. 2025 (expected)

National Institute of Applied Science and Technology

Tunis, Tunisia

Skills and Tools

• Programming Languages:

Python, C++, Java,
HTML, CSS, Javascript

• Operating Systems:

Windows,
Linux

• Familiar Hardware:

STM32, Arduino, ESP32,
Raspberry Pi

• Developer Tools:

Visual Studio Code
Git & Github

• Robotics:

ROS, PID, Control Theory,
Applied Mathematics

• Misc Tools and Softwares:

Grafana, MQTT
OpenCV, Pytorch

Languages

English:C1

French :C1

Arabic:Native Language

Extracurricular Activities

AeRobotix INSAT

Sept. 2021 – Sept. 2024

- **Member:** Participated in tournaments in the first year gain experience with robotics.
- **Member of an EUROBOT 2023 Team**

Problem-Solving Group Member

Sept. 2018 – Sept. 2019

- **Member:** Spent a year working with an instructor and other peers, gaining problem solving skills in the process.