

Amine Belhaj Amor

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PROFILE

Engineer-in-training with a solid background in embedded systems and robotics. I enjoy turning ideas into practical, reliable solutions and tackling problems with a structured, hands-on approach. Curious, adaptable, and comfortable in collaborative environments, I aim to contribute effectively while continuing to learn and take on meaningful responsibilities.

EDUCATION

National Institute of Applied Sciences and Technology (INSAT)

Tunis, Tunisia

Industrial computing and automation (Electrical engineering, Embedded systems)

September 2021 – Present

PROFESSIONAL EXPERIENCE

Robotics R&D Intern

May 2025 – July 2025

ENSEM Nancy

Nancy, France

- **Brief:** Contributed to the creation of robotics course for 60+ engineering students at ENSEM Nancy, including ROS2 and Docker integration, environment sensing and obstacle detection algorithms, and sensor fusion.
- **Key words:** ROS2, LIDAR, Docker, Sensor fusion, Git/Gitlab, Documentation

Robotics Instructor

September 2024 – May 2025

Junior Robotics

Tunis, Tunisia

- **Brief:** Instructed students in robotics with a focus on preparing them for international robotics competitions.
- **Key words:** Arduino, Electronics, Solidworks, Problem-solving, communication

Embedded systems and IoT Intern

July 2024 – November 2024

Orange Digital Center

Tunis, Tunisia

- **Brief:** Developed a device for real-time monitoring and anomaly prediction for dialysis patients based on ESP32.
- **Key words:** RTOS, DSP, MQTT, AWS IoT, PCB Design.

PROJECTS

Custom bootloader for STM32 microcontrollers [GitHub]

Embedded systems / Bootloaders (Jan 2025)

- Developed custom bootloader for STM32 microcontrollers enabling application updates and firmware management via UART communication.

Autonomous Robot for Eurobot 2023-2024[GitHub]

Robotics / Embedded / Software (Mars 2024)

- Implemented a fully autonomous navigation with feedback controller and precise localization of the robot with odometry and gyroscope on a STM32F4 microcontroller.
- Designed a software architecture connecting modules and devices with ROS topics and services.

VOLUNTEERING WORK

President

February 2025 – Present

Association des Techniques de Robotique (ATR)

Tunis, Tunisia

- Leading ATR, an association dedicated to advancing robotics in Tunisia.

- Coordinating international activities as the official National Organization Committee of Eurobot Tunisia with 20+ teams and over 150 participant.

Aeronautics Manager

September 2023 – May 2025

Aerobotix INSAT club

Tunis, Tunisia

- Acted as Aeromodelling and drone instructor for over 100 club members.

SKILLS

Technical: C/C++, Python | Microcontrollers | Electronics | Embedded Systems | IAR | STM32CubeIDE | Bootloaders | communication protocols (UART, SPI, I2C, USB...) | Debugging protocols (JTAG, SWD) | Electronics | ROS & ROS2 | Git/GitHub | hardware Debugging (logic analyzer, oscilloscopes...) | SQL

Soft Skills: Teamwork | Communication | Leadership | Problem-solving

Languages: English | French | Arabic