

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