Bouarfa LAHMAR

Robotics and Artificial Intelligence Engineering Student

CONTACT

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Fès, Maroc

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Mon portfolio

PROFILE

Final-year Robotics and Artificial Intelligence Engineering student, passionate about robotics, AI, and technological innovation.
Hands-on experience in robotics, embedded systems, machine learning, and computer vision.
Seeking opportunities to apply my skills and contribute to innovative, impactful projects.

EDUCATION

Euro-Mediterranean University of Fez

Engineering Cycle in Robotics and Artificial Intelligence
Fez, Morocco | 2023 – 2026

Euro-Mediterranean University of Fez

Integrated Preparatory Cycle
Fez, Morocco | 2023 – 2026

Moulay El Hassane High School

Baccalaureate in Physical Sciences
Missour, Morocco | 2021

SKILLS

- **Programming Languages**: Python, Java, C, C++, MATLAB, R
- **Databases**: SQL
- **Frameworks & Libraries**: Pandas, NumPy, Seaborn, SciPy, Matplotlib, OpenCV, YOLOv8, Pillow, Scikit-learn, TensorFlow, Keras
- **Robotics & AI**: Kinematics, SLAM, ROS/ROS2, Trajectory Planning, Kalman Filter, Sensor Fusion, Machine Learning, Deep Learning (ANN, CNN, RNN, LSTM), Reinforcement Learning, Fuzzy Logic
- **Industrial Automation**: Ladder, Grafcet, GEMMA, VHDL
- **Embedded Systems & Microcontrollers**: Arduino, Raspberry Pi, STM32, ESP32, FreeRTOS, FPGA (Xilinx/Intel)
- **Systems & Networks**: Linux, Git, GitHub, Networking Protocols
- **Software Tools**: SolidWorks, STM32CubeIDE, Schneider EcoStruxure, Proteus, Simulink, RViz & Gazebo, ModelSim, Quartus, Anaconda, VSCode, PyCharm, Microsoft Project, ProjectLibre
- **Operating Systems**: Linux, Windows, Raspberry Pi OS
- **Project Management**: Agile Methodologies, V-Model, Gantt & PERT, Jira

PROFESSIONAL EXPERIENCE

Robotics Engineering Intern – Final-year internship
Neo Motors Morocco – Rabat, Morocco
July 2025 – August 2025 (**2 months**)

- **Analyzed** the manual sandblasting process of automotive chassis, **identifying** limitations in productivity, quality, and operator safety.
- **Defined** functional requirements and **designed** the functional architecture of a robotic sandblasting system.
- **Conducted** kinematic modeling and **3D simulations** to validate robot movements and trajectories.
- **Designed** a centralized control interface and **validated** the system, demonstrating improvements in safety and efficiency.

ACADEMIC PROJECTS

- **Autonomous Robotic Arm**: Forward and inverse kinematics, simulation with Gazebo/ROS.
- **Intelligent Mobile Robot**: Parking flow management using camera, LIDAR, and Raspberry Pi.
- **SLAM and Path Planning**: Implementation on a mobile robot in a labyrinth environment.
- **Fuzzy Logic Surveillance Robot**: Detection and intervention in case of driver drowsiness.
- **Real-Time Embedded Robot**: STM32 integration under FreeRTOS with communication protocol management.
- **Intelligent Navigation Robot**: Traffic sign recognition and autonomous mobility.

CERTIFICATIONS

- **Supervised Machine Learning:** Regression and Classification – Coursera
- **Introduction to SQL –** DataCamp
- **Supervised Learning with Python –** DataCamp
- **Unsupervised Learning with Python –** DataCamp
- **Implementation of Occupational Health and Safety in Industry –** Udemy

LANGUAGES

- **Arabic:** Native
- **French:** Fluent
- **English:** Fluent
- **Spanish:** Beginner