

KAMAL EDDINE BOULENACHE

ciriculum vitae



INFORMATION

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[Kamaleddine BOULENACHE](#)

[KamaleddineBLE](#)

DEV SKILLS

- Python for machine learning
- C/C++ & Embedded Systems
- Python, C/C++, JavaScript
- TensorFlow, PyTorch, Scikit-learn
- NLP, Computer Vision, YOLO
- Data Preprocessing & Analysis
- MQTT, LoRa, WebSocket
- Embedded Systems (ESP32, Arduino)
- SQL, MongoDB
- Git, Docker
- Basic Circuit Design (Kicad)
- UI/UX Design

SOFT SKILLS

- Problem-Solving & Critical Thinking
- Creativity & Innovation
- Attention to Detail
- Adaptability & Fast Learning
- Collaboration & Teamwork
- Project Management
- Entrepreneurial Mindset

LANGUAGES

English(Fluent)

Arabic(Fluent)

French(Intermediate)

Amazigh(Native)

PROFILE

AI and Data Science engineer with a strong passion and deep interest in IoT and embedded systems. Specializes in artificial intelligence while focusing on its integration with IoT to develop adaptive, data-driven, and scalable smart solutions. Experienced in projects such as AI-powered greenhouse management systems and custom smart devices, with a vision to combine advanced analytics and connected technologies to address real-world challenges.

EDUCATION

BAC Mathematics Speciality <small>(16.40/20)</small>	<small>(SEP 2020)</small>
<small>Lycée Ramdane Hamoude ,Ghardaia ,Algeria</small>	
Ai & DS State Engineer Degree	<small>(NOV 2020- JULY 2025)</small>
<small>Ecole Supérieure en Sciences et Technologies de l'Informatique et du Numérique (ESTIN) Béjaïa, Algeria</small>	
Grade: 19/20 (highest honor)	
Thesis: Design and Implementation of a Data Acquisition System for Monitoring and Controlling Soil and Environmental Parameters in a Smart Greenhouse	
Ai & DS Master's Degree	<small>(July 2025)</small>
<small>Ecole Supérieure en Sciences et Technologies de l'Informatique et du Numérique (ESTIN) Béjaïa, Algeria</small>	
Grade: 17/20 (high distinction)	
Thesis: Artificial Intelligence and IoT in Smart Greenhouses: State-of-the-Art Review, Monitoring, Control, and Predictive Analysis	

EXPERIENCE

IT intern	<small>(Aug-Sep 2024)</small>
<small>La Caisse Nationale de Sécurité Sociale des Non-Salariés</small>	
Mobile & Web Dev Freelancer	<small>(2020-Pesent)</small>
<small>Fiverr , upwork</small>	
lot Freelance project	<small>(2020-Pesent)</small>
<small>Fire alert system based on lora communication</small>	

CERTIFICATES

Python for Data Science, AI & Development	<small>March 24, 2024</small>
<small>IBM,Coursera</small>	
Architecting Smart IoT Devices	<small>August 31, 2024</small>
<small>EIT Digital,Coursera</small>	
Introduction to Embedded Machine Learning	<small>August 28, 2024</small>
<small>Edge ImpulseCoursera</small>	

PROJECTS & RESEARCH More Details in this link

- Grassthink** AI-Powered Smart Greenhouse Platform
Built an AI-powered greenhouse system with real-time monitoring, automated control, and plant health analysis using YOLOv11.
- LoRa-Based Wildfire Detection and Monitoring System**
Developed a wildfire detection network using three Heltec WiFi LoRa 32 modules to monitor temperature, humidity, and smoke. Used LoRa for long-range, low-power data transmission to a central web server with a real-time dashboard for sensor data, location tracking, and alerts.
- Smart Garage Controller**
Developed an IoT garage system with door monitoring, remote control, and planing to add GPS-based geofencing for automated access.
- Smart Fingerprint Lock**
reated a secure ESP32-based lock system with fingerprint authentication, relay control, and local storage for authorized user data.
- Aurex** IoT & AI Solutions Platform (Founder & Visionary)
Vision to build a platform that transforms in-house IoT and AI innovations into production-ready products while providing tailored IoT development services. Aurex focuses on smart agriculture, home automation, and embedded AI, uniting hardware, software, and AI to deliver intelligent, scalable solutions.

Activities

Mentoring in IoT Events	<small>(2023-2025)</small>
<small>Guided participants in hands-on workshops and project showcases focused on IoT innovation. (2023–2024)</small>	
Presetning Grassthink at COSI'2025 <small>Link to TV report</small>	<small>(JUN 2025)</small>
<small>Showcased an IoT- and AI-powered smart greenhouse system to global researchers, industry leaders, and innovators. (Jan 2025)</small>	
Active Club Engagement	<small>(2020-2025)</small>
<small>Participated in technical clubs and competitions to develop leadership, collaboration, and problem solving skills. (2022–2025)</small>	