ELADJ Salim Zakaria

AI Engineer & Researcher — Full-Stack Developer — Data Analyst

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LinkedIn — Portfolio — GitHub

EDUCATION & RESEARCH

Bachelor's Degree in Computer Science 2022 - 2025

University of Science and Technology Houari Boumedienne

- Completed rigorous academic research centered on AI-driven 3D brain tumor segmentation project.
- Applied advanced machine learning techniques with validation using real patient data and expert medical feedback.
- Developed comprehensive technical documentation covering model architecture, training, validation, and deployment.
- Collaborated with academic supervisors and medical professionals to align project with clinical standards.

CORPORATE & EXPERIENCE

AI Engineer & Data Scientist - Factory Data Analytics and Optimization - Juno, France Jun - Dec 2025

- Engineered real-time data processing for plastic injection and extrusion factory operations focusing on quality control.
- Developed custom statistical and deep learning models for simulation, forecasting, inference, and validation.
- Designed linear optimization models to improve production efficiency and resource utilization.
- Built scalable APIs and systems for real-time model inference and data integration with factory operations.
- Created simulation frameworks to replicate factory environments and analyze parameter effects on performance.
- Managed big data ingestion using Apache Airflow, automating data pipelines and AI tasks.
- Developed custom Root Cause Analysis (RAG) engine automating fault detection and enhancing response times.

IoT AI Engineer & Full-Stack Embedded Systems Developer - Ecomove Startup Apr - Sep 2025

- Integrated smart parking systems using ESP32 microcontrollers with Bluetooth and Wi-Fi for real-time monitoring.
- Designed dynamic smart parking system with ESP32 sensors to monitor occupancy and control parking barriers.
- Cleaned spatial data into weighted directed graphs with real-time weights to minimize travel time.
- Developed multi-modal transportation path optimization engine using Dijkstra's algorithm for time-efficient routes.
- Built user-friendly web application for interaction with smart parking and routing systems.

"AI Day" Coach - USTHB May 2025

- Led workshop on AI-driven oil price forecasting and trading strategies.
- Demonstrated real-time production and stock predictions using LSTM and CNN models.

AI Engineer & Fullstack Developer - UrbaSense Startup Apr - Jul 2025

- Created AI-powered app for automated urban anomaly detection and citizen engagement.

AI Mentor and Conference Speaker - OpenHouse USTHB Apr 2025

- Delivered workshops on Python and PyTorch, and presented on neural network math.
- Showcased projects like Health Indices Estimation, interactive PyTorch demos, Brain Tumor Segmentation, and Posture Detection.

Lead AI Engineer & Fullstack Developer - AMIDI Startup Nov 2024 - 2025

- Developed touristic app featuring advanced AI capabilities and large language models for personalized recommendations.

Backend Developer & Mentor - OpenMindsClub 2023 - present

- Developed backend infrastructure for event websites and mentored members through workshops.
- Participated in hackathons and CTFs to enhance skills and knowledge.

Freelance Fullstack Developer - ElRafik Startup Feb - Apr 2023

- Generated $20K revenue in 6 months for startup app that won a label in 2024, connecting psychology students and professionals with patients.

NOTABLE PROJECTS

AI-Powered 3D Brain Tumor Segmentation and Visualization Ecosystem Jun 2024 - 2025

- Developed novel AI model for 3D brain tumor segmentation from low-quality 2D MRI data, achieving 93% precision.
- Built complete ecosystem including AI model, robust API, WebGL-based interactive 3D visualization web app, and desktop application.
- Collaborated with medical professionals ensuring clinical relevance and expert validation throughout the project.
- Combined academic rigor with practical application as research project and Bachelor graduation project.

AI-U2Net-BodyMeasurement Mar 2025

- Utilized U2Net model for human body segmentation to accurately identify key body points.
- Calculated body dimensions enabling assessment of health indices such as Body Roundness Index (BRI).
- Applied computational techniques to automate health-related measurements in medical imaging tasks.

MLZ: Machine Learning Library Jun 2024

- Built lightweight machine learning library from scratch using NumPy with focus on modularity and readability.
- Implemented sequential and convolutional neural networks with common loss functions and optimizers (SGD, Adam).
- Designed layers like Dense, Conv2D, and ReLU to enhance functionality for diverse ML tasks.

MINIDEL: Pseudo Compiler Nov 2024

- Developed compiler for Minidel pseudo-language using Lex, Bison, and C.
- Implemented lexer, parser, and semantic analyzer with symbol table and quadruple generation.
- Integrated Django-based web editor with syntax highlighting and error diagnostics using custom JavaScript library.

QuakeGuard Nov 2024

- Received District Award from Wali of Boumerdes at National Institute of Hydrocarbures exhibition.
- Developed app prototype connecting to QuakeGuard Earthquake Detection System for disaster notifications.
- Designed API for earthquake detection using Arduino vibration sensors with Wi-Fi and Bluetooth connectivity.
- Built app with Flutter for cross-platform compatibility and API using Django, BlueZ, and C++.

LANGUAGES

English: Native **French:** Native **Arabic:** Native