ELADJ Salim Zakaria

AI Engineer | Data Analyst | CS Graduate | AI Researcher | FullStack Developer | Software Engineer
(+213)792397906, zakeladj@gmail.com

LINKS

LinkedIn: https://www.linkedin.com/in/salim-zakaria-eladj
Portfolio: https://zaqks.github.io
GitHub: https://github.com/zaqks

EDUCATION & RESEARCH

Bachelor's Degree In Computer Science **2022 - 2025**
University of science and technology Houari Boumedienne

- Completed rigorous academic research as part of my license (bachelor's) degree, centered on the **AI-driven 3D brain tumor segmentation project** (detailed in Projects section).
- Applied advanced machine learning techniques and research methodologies, ensuring scientific rigor through validation with real patient data and expert medical feedback.
- Developed comprehensive technical documentation covering model architecture, training, validation, and deployment, demonstrating strong research and analytical skills.
- Collaborated closely with academic supervisors and medical professionals to align the project with clinical standards and contribute to interdisciplinary knowledge.

CORPORATE & EXPERIENCE

"AI Day" Coach - USTHB **2025**

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

AI Engineer & Fullstack Developer at UrbaSense - Startup **2025**

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

AI Mentor and Conference Speaker at OpenHouse USTHB **2025**

- Delivered workshops on Python and PyTorch, and presented a mini-conference on the mathematical foundations of Neural Networks and Deep Learning.
- Showcased projects including Human Body Health Indices Estimation with U2Net_Model, interactive PyTorch demos (MNIST), AI applications like Brain Tumor Segmentation, and interactive tools for Body Posture Detection, fostering engagement on health, AI, and accessibility topics.

Lead AI Engineer & Fullstack Developer at AMIDI - Startup **2025**

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

Freelance Fullstack Developer at Bassmati - Startup **2024**

- a healthcare app prototype connecting psychologists, speech therapists, and patients, featuring medical records storage with encryption, appointments management, staff authentication, and payment verification.

Backend Developer at OpenMindsClub & Mentor **2023 - present**

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

Freelance Fullstack Developer at ElRafik - Startup **2023**

- Generated a **20K$ revenue in 6 months** for a startup app that won a label in 2024, enabling psychology students and professionals to register for internships or training courses and connect with future patients.

NOTABLE PROJECTS

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

- Developed a novel, fast, and optimized AI model for accurate 3D brain tumor segmentation from low-quality 2D MRI data, achieving 93% precision and validated with real patient data and expert medical feedback.
- Built a complete ecosystem including the AI model with unique architecture, a robust API, a WebGL-based interactive 3D visualization web app, and a desktop application with advanced segmentation features.
- Collaborated closely with medical professionals and supervisors, ensuring clinical relevance and expert validation throughout the project.
- Combined academic rigor with practical application since this is a research project and my Bachelor graduation project.

AI-U2Net-BodyMeasurement **March 2025**

- Utilized the U2Net model for human body segmentation, leveraging its advanced deep learning architecture to accurately identify key body points.
- Calculated body dimensions based on segmented body points, enabling the assessment of health indices such as Body Roundness Index (BRI).
- Applied computational techniques to automate health-related measurements, enhancing precision and efficiency in medical imaging tasks.

MLZ: Machine Learning Library **June 2024**

- Built MLZ, a lightweight machine learning library from scratch using NumPy, focusing on modularity for experimentation and readability.
- Implemented sequential and convolutional neural networks, along with common loss functions and optimizers such as SGD and Adam.
- Designed layers like Dense, Conv2D, and ReLU to enhance functionality for diverse machine learning tasks.
- Tested the library extensively on Kaggle to ensure reliability and performance in practical scenarios.

MINIDEL: Pseudo Compiler **November 2024**

- Developed a compiler for the Minidel pseudo-language using Lex, Bison, and C, compiled via GCC/Flex/Bison on Linux.
- Implemented a lexer, parser, and semantic analyzer to perform lexical, syntactic, and semantic analysis.
- Generated a symbol table to track variables, types, and scopes, along with quadruples as intermediate code representations.
- Integrated a Django-based web editor with syntax highlighting and error diagnostics using a custom JavaScript library.
- Visualized the symbol table, quadruple sequences, and compiler output in real-time within the UI, accompanied by a console for compilation logs and errors.

QuakeGuard **November 2024**

- Received District Award from the Wali of Boumerdes in 2024 at the National Institute of Hydrocarbures exhibition.
- Developed an app prototype that connects to the QuakeGuard Earthquake Detection System via IP to notify users of incoming disasters in their region.
- Designed an API for earthquake detection using Arduino vibration sensors or dedicated hardware, prototyped with Wi-Fi and Bluetooth connectivity.
- Built the app with Flutter for cross-platform compatibility and the API using Django, BlueZ, and C++.
- Integrated real-time notifications and data visualization into the app for enhanced user experience.
- Focused on privacy safeguards and efficient communication protocols to ensure reliable disaster alerts.

MAJESTY **July 2022**

- Built a photogrammetry functionality using JavaScript for efficient processing of image data into 3D models.
- Developed an eCommerce API featuring 3D product previews, utilizing photogrammetry algorithms to generate 3D models from multi-angle images.
- Developed the API backend with Django and integrated MongoDB for scalable database management.

LANGUAGES

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