

Abdelaziz LAIRGI

Big Data & AI Engineer

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Professional Profile

Junior Engineer specializing in Big Data and Artificial Intelligence. **Motivated by the endless potential of AI to reshape industries**, I have built a solid technical foundation in Machine Learning, Deep Learning, and distributed systems. With hands-on experience in Python and TensorFlow, I am focused on building scalable, data-driven solutions to real-world challenges.

Professional Experience

Capgemini Engineering 6 Months

AI Engineering Project – Automation of Meeting Transcription, Report Generation 2026

- Developed an AI-powered Microsoft Teams assistant for automated real-time transcription, meeting analysis, and post-meeting report generation
- Implemented a hybrid speech-processing pipeline using Deepgram Nova-3 and Whisper large-v3 for low-latency and high-accuracy transcription
- Automated the generation and emailing of structured meeting reports including summaries, action items, decisions, and speaker insights
- Built scalable asynchronous workflows using Python, FastAPI, Docker, Playwright, and Oracle Cloud infrastructure

HSE University 2 months

Research Internship – Fault Frequency Analysis 2025

- Extracted fault frequencies from MCSA signals to validate fault signatures
- Automated feature extraction using Python signal processing

XAI SARL 2 months

AI & Computer Vision Internship 2025

- Developed **AgriScan**, a web-based system for **crop leaf disease and species detection** using **CNNs**
- Designed and trained deep learning models for image classification and health assessment of agricultural crops

Innolia (Consulting) 1 month

Data Science Internship 2024

- Automated data cleaning, performed exploratory data analysis and pattern discovery
- Collaborated with consultants to develop analytical reports

Technical Projects

AgriScan: AI-based crop health detection system using CNNs and LLM analysis, featuring Web and Android applications for plant disease diagnosis. Built with a FastAPI backend, Supabase for data management, and deployed on Netlify. appxagriscan.netlify.app

Full-Scale Big Data Pipeline: end-to-end big data pipeline for real-time truck fleet monitoring and predictive maintenance using Apache Kafka, Spark Streaming, Machine Learning, and comprehensive monitoring tools.

SnapNav: A pretrained ProcTHOR-RL object navigation agent that can find objects in AI2-THOR environments using natural language commands.

Computer Vision: Real-time football player detection using OpenCV, TensorFlow, Flask, and OBS integration

NLP: Twitter sentiment analysis using word embeddings and machine learning classification

Streaming Data: Real-time Reddit data pipeline comparison using Benthos vs. Spark, visualized via Flask dashboard

Data Warehouse: ETL architecture with SQL Server, SSIS, and Power BI dashboards for decision support

Security: Decentralized Authentication prototype with Hyperledger Fabric and Windows Server AD DS

Technical Skills

ML/DL: TensorFlow, PyTorch, Scikit-learn, CNN, RNN, Computer Vision, NLP, OpenCV, MATLAB

Big Data: Hadoop (HDFS, Hive, HBase), Spark, Kafka, Benthos, Docker

Databases: MySQL, SQL Server, PostgreSQL, PL/SQL, MongoDB, Neo4j, Redis

BI Tools: Power BI, SSIS, Tableau, dimensional modeling

Languages: Python, Java, C, JavaScript, HTML/CSS

Frameworks: Flask, FastAPI, Unity 3D, Supabase

DevOps: Git/GitHub, Linux, Windows Server, networking, virtualization

Math/Analytics: Probability, PCA, Markov Chains, multivariate analysis, Time Series, MATLAB, R, MAPLE, Excel

Education

ENSA Berrechid

Engineering Degree – Information Systems & Big Data

Specialization in AI, Big Data, distributed systems, and Data Engineering

Hassan 1st University

2023 – 2026

ENSA Berrechid

Integrated Preparatory Classes

Mathematics, Physics, Computer Science

2021 – 2023

baccalaureate

Mathematical Sciences Baccalaureate A

French Option

2020 – 2021

Certifications

2024: Deep Learning with TensorFlow 2 – 365 Data Science

2024: Convolutional Neural Networks with TensorFlow in Python – 365 Data Science

Volunteering Experience

FIFA

FIFA Volunteer – Safeguarding & Engagement (Women's Unite)

▪ Served as a Safeguarding Volunteer, ensuring participant safety and well-being in accordance with FIFA safeguarding policies.

▪ Actively engaged with attendees to promote inclusion, respect, and positive interaction throughout the event.

▪ Assisted FIFA units in crowd guidance, issue reporting, and on-site coordination.

Casablanca, Morocco

2025

Rowad Alkhair

Active Member – Rowad Alkhair Association

▪ Contributed to the organization of charity initiatives and awareness campaigns supporting local community development.

Berrechid, Morocco

2023 – Present

Languages

Arabic: Native

English: Fluent – Professional level

French: Intermediate – Technical level

Strengths & Interests

Research: Strong curiosity for AI/ML research and continuous learning ▪ **Innovation:** Creative mindset, passion for solving real-world problems with data ▪ **Collaboration:** Excellent teamwork and adaptability in multicultural environments