

# Akram Benmira

IT graduate

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Boudouaou, Boumerdes

Akram Benmira

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## Technical Skills

Java ● ● ● ● ●

MySQL ● ● ● ● ●  
ddl, dml, tcl, tq, dcl

UML ● ● ● ● ●  
(use case, class, object, sequence, component, deployment) diagram

Spring boot ● ● ● ● ●  
spring web, spring data jpa

android development ● ● ● ● ●  
using java, xml, SQLite, firebase realtime database, firebase firestore

Python ● ● ● ● ●  
numpy, pandas, scikit-learn, keras, spacy, nltk

OS currently in use  
Ubuntu(Linux-based os)

frequently used IDEs and environments  
IntelliJ IDEA Community Edition, PyCharm Professional Edition, Android studio, Colab, Kaggle notebook

Git/GitHub  
using IDE VCS

## Soft Skills

Self learning, Sense of responsibility, Critical mindset

## Languages

arabic ● ● ● ● ●

french ● ● ● ● ●

english ● ● ● ● ●

## Profile

New graduate with a background in AI and IT, looking to combine these fields in my career. I have experience in programming and developing applications. I am motivated to improve my skills and communicate effectively within teams. In the short term, I aim to become a balanced IT and AI engineer.

## Publications

**A Progressive Deep Transfer Learning for the Diagnosis of Alzheimer’s Disease on Brain MRI Images**  
*The 1st International Conference on Artificial Intelligence: Theories and Applications (ICAITA22)*  
Mar 2023

## Professional Experience

**Android Mobile Developer**  
*Freelance client*  
2023  
Contributed to a startup's mobile app for furniture and goods delivery. Focused on development, integrating Firebase messaging for notifications, Firestore database, cloud functions, and authentication.

**Android Mobile Developer**  
*Freelance client*  
2022  
stock list management mobile app, using firebase realtime database

**Spring-boot Backend Developer**  
*Freelance client:LA VOIE DU NORD(School and office supplies production workshop)*  
Aug 2024 – Oct 2024 | Dellys, Algeria  
Led the development of a desktop app for stocks and employees management. Responsibilities included gathering project specifications, system design (use case and class diagrams), backend development with Spring Boot, and creating the technical documentation.

## Projects

**Deep Ensemble Learning for Document Image Super-Resolution**  
*Master PFE*  
Feb 2024 – Jun 2024  
Developed an ensemble model using bagging, AdaBoost, and a custom boosting technique for document image super-resolution, with a novel sample selection and training approach. Utilized the ESRGAN architecture.

**Mobile app for alzheimer disease diagnosis**  
*Bachelor PFE*  
Feb 2022 – Jul 2022  
Built a mobile app that analyzes brain MRI images using TensorFlow Lite models to predict Alzheimer's disease. Implemented a novel model training technique, later published in a research paper.

## Interests

- Sports
- series & movies
- AI news
- Startups

## Education

**Master in Information Technology**  
University of M'hamed Bougara Boumerdes  
Sep 2022 – Jun 2024 | Boumerdes, Algeria  
Favorite subjects: data mining, advanced design  
PFE: document-image super resolution using deep ensemble learning

**Bachelor in Computer Systems**  
University of M'hamed Bougara Boumerdes  
Sep 2019 – Jul 2022 | Boumerdes, Algeria  
Favorite subjects: algorithms, oop, bdd, GL, AI  
PFE: Application of deep learning to the diagnosis of medical images(Alzheimer case)

**Scientific baccalaureate**  
Gouigah Mohammed High School  
Sep 2016 – Jul 2019 | Boudouaou, Algeria

## Academic Knowledge

- Data Structure**

array, queue, stack, lists
- Low-Level System Design Patterns**

structural (adapter, composite)  
behavioral (observer, strategy)  
creational (singleton, abstract factory, factory method)
- Machine Learning**

classification, regression, clustering, association rules, ensemble learning, cross-validation, linear regression, logistic regression, KNN, naive bayes, decision tree, random forest, SVM, neural network, k-means, DBSCAN, apriori
- Deep Learning**

classification, object detection, image super-resolution, transfer learning, fine tuning, CNN, YOLO, RNN, Bi-RNN, LSTM, GRU, auto encoder, GAN, SRGAN, ESRGAN, transformer
- Data Preparation**

cleaning, normalization, scaling, transformation, augmentation, handling imbalanced data, features selection, splitting
- Natural Language Processing**

tokenization, lemmatization, stemming, BOW, Bag Of N-Grams, TF-IDF, Word Embedding
- Generative AI**

prompting(Zero-shot, one-shot, few-shot learning), LoRA fine-tuning, RAG