

KHADIM MBAYE

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PROFILE

Final-year engineering student (5-year program, BAC+5) in Artificial Intelligence and Big Data at the École Supérieure Polytechnique of Dakar (ESP/UCAD). My training covers the whole data value chain, from collection and storage (SQL, NoSQL, Big Data) through to analysis (Machine Learning, Business Intelligence, Data Mining). I also have backend development skills with Java/Spring Boot, including LLM integration through Spring AI (OpenAI, DeepSeek, Gemini...), and a solid ability to use AI agents and connect them to tools. I enjoy learning and keep training through certified online courses and personal projects; my certifications are visible on my LinkedIn profile.

EDUCATION

Cours Privé Didier Marie <i>Baccalauréat scientifique (S2), scientific track</i> Grade: Mention Bien (Good)	2021-2022 <i>Saint-Louis, Sénégal</i>
École Supérieure Polytechnique (ESP/UCAD) <i>Diplôme Supérieur de Technologie (DST) in Computer Science</i> Relevant coursework: Algorithms and Data Structures, Probability and Statistics, Programming	2022-2024 <i>Dakar, Sénégal</i>
École Supérieure Polytechnique (ESP/UCAD) <i>Diplôme d'Ingénieur de Conception (DIC) in Artificial Intelligence and Big Data (IABD)</i> Relevant coursework: Machine Learning, Optimisation, Business Intelligence	2024-Present <i>Dakar, Sénégal</i>

EXPERIENCE

Final-year internship (DST) <i>SONATEL</i> - Entered and structured data in the company's operational database - Processed customer records - Learned how a large telecom operator runs	May 21, 2024 – June 29, 2024 <i>Dakar, Sénégal</i>
Data Science Internship <i>SODER</i> - Time series analysis of energy consumption (electricity meter readings) - Built Machine Learning forecasting models: Prophet, NeuralProphet, XGBoost, LightGBM, Random Forest - Deployed the models with FastAPI (forecasting API) and Docker, with a React dashboard on top	September 2026 – Present <i>Dakar, Sénégal</i>

PROJECTS

- Stacking Study (module project)** | Python, Scikit-Learn
 - Theoretical study plus an implementation of Stacking, an Ensemble Learning method
 - [View project](#)
- Hyperparameter tuning and cross-validation (module project)** | Python, Scikit-Learn
 - Python implementation of hyperparameter tuning combined with cross-validation
 - [View project](#)
- NEURAL-PULSE** | Java, Spring Boot, Telegram, Slack
 - Automated pipeline that gathers AI news from 12 major sources every Saturday, summarises them with an LLM (Groq) and posts an annotated digest to Telegram and Slack
 - Deployed the application on Oracle Cloud
 - Project where I put to work the vibe coding skills I picked up in the Google AI Professional Certificate (Coursera)
 - [View certificate](#)
 - [View project](#)
- TECHBLOCKS** | TypeScript, React, Java, Spring Boot, PostgreSQL
 - Developer-focused collaborative documentation platform in the spirit of Linear and Notion: living documents split into Markdown blocks, code with syntax highlighting, Mermaid diagrams, API endpoints and callouts
 - Project where I applied the advanced AI agent skills I learned in the "Claude Code in Action" course
 - [View certificate](#)
 - [View project](#)

ELT Pipeline | Python, Apache Airflow, Oracle Cloud (OCI)

- ELT pipeline extracting public New York City taxi trip data (about 40 million rows)
- Loaded into Oracle Cloud Object Storage, then transformed in an Oracle Data Warehouse (ADW) with deduplication
- View project

ACADEMIC AND PERSONAL PROJECTS | Hub

- My structured hub gathering all the projects and exercises I have done
- View repository

TECHNICAL SKILLS

Programming: Python, Java, JavaScript, TypeScript, SQL, C, Scala (basic)

Frameworks/Libraries: NumPy, Pandas, Matplotlib, Scikit-Learn, Spring Boot, Spring AI, FastAPI, React

Machine Learning: Linear regression, Logistic regression, Decision trees, Random Forest, Ensemble Learning, Time series (Prophet), Unsupervised learning

Tools/Technologies: Git, Linux, IntelliJ IDEA, VS Code, Postman, AI agents (Claude Code), Apache Airflow, Apache Spark

Cloud & DevOps: OpenStack, Oracle Cloud (OCI), Docker, CI/CD (GitHub Actions), Terraform

LANGUAGES

French: Native (spoken and written)

English: Technical - good reading comprehension, documentation, code writing