

Abdoulaye Balde

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Professional Summary

Machine Learning Engineer and AI Researcher with solid experience in building end-to-end ML systems, deep learning, and MLOps. Proven success in international competitions (Zindi, Kaggle) and academic publications. Passionate about AI for social good and AI fairness. Fluent in English and French.

Education

M.Sc. Computer Science

2024–Present

Université du Québec à Montréal (UQAM), Canada

Focus: Machine Learning, Data Science, MLOps

B.Tech. Information Technology

2018–2022

Sharda University, India — GPA: 7.59/10

Work Experience

Sanitation clerk au CTMF(CNRC)

Oct 2023 – Jun 2025

Data Science Trainer

Jan 2023 – Jun 2023

Orange Digital Center, Guinea

Led AI training for Orange Guinea staff on topics such as machine learning, NLP, and transformers.

IT Technical Support Intern

Sep 2022 – Nov 2022

University of Cape Town, South Africa

Configured GPU and installed PyTorch3D for a 3D medical imaging research project.

Lead Organizer – AI Conference (Deep Learning IndabaX Guinea)

Oct 2022 – Present

Deep Learning Indaba

Organized and planned the event to ensure a successful conference. Sourced sponsors, partners, speakers, and mentors. Led a machine learning hackathon during the conference.

Selected Projects

Multimodal Emotion Detection (UQAM) — Lead

2025

Built an AI model using CNN for image and BERT for text data. Addressed responsible AI issues in the pipeline.

Autoencoder for Dolphin & Shark Image Classification — Developer

2025

Trained a convolutional autoencoder achieving 88% SVM accuracy on embeddings (vs. 79% raw).

Credit Card Fraud Detection (Kaggle) — Solo Participant

2023

Achieved top 16% (100th/641) in a binary classification challenge using tabular data and LightGBM on Kaggle.

Data Science Competitions (Zindi)

- 2nd Place — Data Science Week Guinea 2022
- 18th/62 — AutoInland Insurance Claim
- Umojahack Country Winner — 2022, 2023
- 78th/336 — Early Learning Predictors
- 39th/493 — Faulty Air Quality Sensor
- Top 10 in multiple fraud detection challenges

Publications

An Efficient Approach for Predicting Financial Inclusion

2022, *IEEE ICCSEA Conference* — DOI: 10.1109/ICCSEA54677.2022.9936452

Certifications

- Applied Machine Learning in Python — University of Michigan (Coursera)
- Introduction to Data Science in Python — University of Michigan (Coursera)
- Technical Support Fundamentals — Google (Coursera)

Awards & Leadership

- **Bourse Inclusive AI de CIFAR**, NSERC CREATE Responsible AI – Conférence Canadian AI 2025
CIFAR Inclusive AI Scholarship pour la participation à la conférence Canadian AI 2025, organisée par le groupe NSERC CREATE Responsible AI. **Été 2025**
- Lead Organizer, Deep Learning IndabaX Guinea 2023 - Present
- Travel Award — Deep Learning Indaba 2022 (Tunisia)
- Kaggle Expert and Open Data Contributor

Technical Skills

Languages: Python, SQL, C/C++

ML/DL: PyTorch, TensorFlow, Scikit-learn, LightGBM, Transformers

Tools: Git, Docker, MLflow, Airflow, Spark, MongoDB

Cloud: GCP, AWS (basic)

Other: LaTeX, Tableau, Bash, Linux

Languages

French: Native **English:** Fluent