

# Merveille Christamour Akouègnon CODJO

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Third-year AI student at IFRI applying machine learning to complex data analysis, particularly in bioinformatics and healthcare. Research interests include genomic data analysis and predictive modeling.

## Education

### Bachelor in Artificial Intelligence

IFRI, Université d'Abomey-Calavi, Benin

Nov 2023 – Present

## Experience

### Data Science Intern

Locapay, Benin

July – Aug 2025

- Analyzed real estate data to predict housing prices using ML models (Linear Regression, Random Forest, XGBoost)
- Conducted data preparation: cleaning, feature engineering, handling missing values
- Created content for social media and communicated insights to stakeholders

## Projects

### Petroleum Distribution Optimization (VRP)

[link]

Academic Project

- Solved multi-depot Vehicle Routing Problem with real-world constraints (heterogeneous fleet, variable capacities)
- Implemented MILP solution (PuLP + CBC) and Simulated Annealing metaheuristic

### Chronic Kidney Disease Prediction

[link]

Personal Project

- Analyzed 400 patients' clinical data to predict CKD presence using ML pipeline
- Identified key diagnostic factors through EDA and validated with medical literature

### CHIC Hospital Chatbot

[link]

Personal NLP Project

- Developed NLP chatbot for hospital information (location, appointments, services)
- Improved patient accessibility and reduced administrative workload

### RAG Administrative Assistant

[link]

Academic Group Project

- Built RAG system for student queries using Llama 3 (Groq), ChromaDB, with anti-hallucination features

### Mini-Lib Classification

[link]

Academic Project

- Implemented classification algorithms to organize library documents with data preprocessing pipelines

### Sokoban with Search Algorithms

Academic Project

- Built Sokoban game in pure Python, compared search algorithms (BFS, DFS, A\*) for solving efficiency

**Other Projects:** Chatbot preferences survey (ChatGPT/Claude/Gemini usage analysis), COVID-19 vaccination vs GDP analysis

## Technical Skills

**Programming:** Python, R, SQL, JavaScript, HTML/CSS    **AI/ML:** Scikit-learn, TensorFlow/Keras, Pandas, NumPy, Matplotlib, Seaborn, PuLP

**Tools:** Git/GitHub, Jupyter, VS Code, Google Colab, R Studio    **Specialties:** NLP, Operations Research, Statistical Modeling

## Leadership & Activities

**AI Club (IFRI)** – Active member in workshops and ML projects

2024

**English Club & WICSI Girls** – Technical communication and diversity advocacy

2024–Present

**IndabaX Benin 2025** – Participated in ML workshops on AI innovation in Africa

**Personal Development:** Piano learning, pastoral studies (spiritual leadership)

## Certifications

Python for Data Science (Coursera) | [View All Certificates](#)

## **Languages & Research Interests**

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**Languages:** French (Native), English (Learning), Spanish (Learning)

**Research Interests:** Bioinformatics (DNA/protein analysis), AI for African challenges, Kaggle competitions

**Volunteer Work:** Child advocacy for orphaned children and education access