Cheikh FALL

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SUMMARY

Passionate about Artificial Intelligence, Machine Learning, and Deep Learning, I specialize in mathematical and statistical modeling, NLP, as well as Generative AI. My goal is to transform complex data into actionable insights to optimize decision-making and create value. Motivated, curious, and innovation-driven, I strive to deepen my understanding of algorithms, enhance the performance of predictive models, and apply AI to solve real-world, high-impact problems.

SKILLS

- **Programming Languages:** Python, R, MATLAB, SCILAB
- **AI/Machine Learning Frameworks:** TensorFlow, PyTorch, Scikit-learn
- **Data Analysis & Visualization:** Pandas, NumPy, Matplotlib, Seaborn
- **Databases:** SQL

INTERESTS

- **Technology & Innovation**: AI, Data Science, Mathematical Modeling, Computer Vision
- **Reading & Scientific Watch**: AI, Optimization, Energy, Mathematics

EXPERIENCE

July 2025 - December 2025
Mathematical Modeling & AI Intern Senelec | Dakar - Internship

- Modeling of strategic interactions between electricity producers and buyers using evolutionary game theory.
- Design of multi-agent simulations with Agent-Based Modeling integrating Deep Reinforcement Learning for decision-making.
- Scenario analysis in liberalized electricity markets based on calibrated data.

EDUCATION

January 2018 - May 2021
Licence | Mathematics
Assane Seck of Ziguinchor University, Ziguinchor

October 2024 - Current
Master | Data Science
African Institute of Mathematical Sciences, Mbour

July 2021 - April 2024
Master | Applied mathematics
Assane Seck of Ziguinchor University, Ziguinchor

COMPLETED PROJECTS

- **Data Analysis (FDE – Water Billing Distribution)**: Statistical modeling and AI (regression, clustering, neural networks) to predict consumption and billing.
- **Web Scraping & Visualization**: Development of a Streamlit application to collect and analyze animal-related data (BeautifulSoup, Python).
- **Medical AI**: Deployment of a Flask application for stroke prediction with a Scikit-learn pipeline (preprocessing, encoding, supervised model).
- **ADVANCED RAG**: Design of conversational systems (NewsAI, AgenticRAGChat) integrating LangGraph, Hugging Face, ChromaDB, Groq LLM, with web search and intelligent synthesis.
- **Computer Vision**: Real-time license plate detection and tracking system using YOLOv8, SORT, Streamlit, including heatmaps, sound alerts, and MOT metrics computation.

ACTIVITIES AND DISTINCTIONS

- **Civic Participation**: Contribution to peacebuilding mechanisms in Casamance during the 2024 elections.

- **Social Engagement**: Volunteering, School Mentoring, Community Initiatives
- **Sports & Well-being**: Football, Hiking, Meditation

LANGUAGE

French :

Working proficiency

French :

Fluent

SOFT SKILLS

- Analytical mind or Analytical skills
- Problem-solving skills
- Teamwork
- Effective communication
- Adaptability
- Time management

- **Community Engagement (AIMS)**: Volunteering with Give Back Charity – environmental cleaning, support to the Mbour nursery, donations to the hospital and the correctional facility of Mbour.
- **Education & Mentoring**: Tutoring and academic support for exam-level students in Mbour.

CERTIFICATIONS

- AI Engineer for Data Scientists Associate – DataCamp
- AWS Educate: Machine Learning Foundations – Amazon Web Services (AWS)
- Fundamentals of Deep Learning – NVIDIA
- Introduction to Data Analysis using Microsoft Excel – Coursera
- Supervised Machine Learning: Regression and Classification – Coursera
- Introduction to Deep Learning with PyTorch – DataCamp