Rova Isaia ANDRIAMAMY

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Antananarivo, Madagascar

Professional Objective

Passionate about artificial intelligence, data science, and data analysis. I enjoy using machine learning and deep learning to solve real problems with data. My goal is to work on projects that have a positive impact and can be applied in the real world. I want to help build simple and useful solutions tools in fields such as astrophysics, healthcare, agriculture, and other areas where data can make a difference.

Research & Project Experience

- **Development in Africa with Radio Astronomy (DARA) Training:** *July 2025 – March 2026*
  Radio & Optical Astronomy | Data Reduction & Analysis South Africa/Kenya
  - Mastered Bash scripting and Python libraries (NumPy, Astropy, SciPy, Matplotlib) for astronomical data processing
  - Performed radio interferometry data reduction using CASA
  - Collaboration and discussions with international professionals

- **Hack4dev International Hackathon** *April 2025*
  Convolutional Neural Network (CNN) for Satellite Image Classification Anxian University, Antananarivo
  - Developed CNN architecture for classifying CubeSat imagery into **5 categories**
  - Experimented with multiple neural network architectures to optimize classification performance
  - Achieved **99.9% classification accuracy** while creating a model **24× faster and 23× more compact** than the baseline architecture model
  - Ranked in the **Top 20 internationally** among competing teams

- **Food Price Forecasting in Madagascar** *2024 – 2025*
  Deep Learning for Time-Series Analysis M1 Project
  - Scraped and cleaned **18+ years** of market price data from multiple online sources
  - Engineered temporal features and performed time-series preprocessing for RNN-based/LSTM/GRU models
  - Designed and trained LSTM architectures achieving **94.51%** accuracy in short-term price forecasting
  - Developed interactive Flask/React dashboard for real-time predictions, on local machine

- **BRICS (Brazil , Russia , India , China , South Africa) Astronomy Project** *May 2025 – July 2025*
  Machine Learning for Cosmology Remotely
  - Analyzed large-scale cosmological simulation data using Python (pandas, NumPy, Matplotlib, Seaborn)
  - Developed random forest and different models to predict dark matter halo masses
  - Achieved **96.8% accuracy** with Random Forest Regressor model
  - Scored **89/100** on final project evaluation

Education

- **University of Antananarivo** *2025 – Present*
  Master II in Astronomy and Astrophysics Antananarivo, Madagascar
  - Coursework: Radio Astronomy, Cosmology, Stellar Evolution, Galactic Dynamics
  - Thesis: **"Machine Learning Prediction of Dark Matter Halo Masses from Observable Galaxy Properties"**

- **INSI University of Ambanidia** *2024 – 2025*
  Master I in Artificial Intelligence Antananarivo, Madagascar

- Coursework: Machine Learning, Deep Learning, Natural Language Processing, Computer Vision
- Thesis: **"Food Price Forecasting in Madagascar"**

- **University of Antananarivo** *2022 – 2023*
  Bachelor's Degree in Physics Antananarivo, Madagascar
  - Specialization: Fundamental Physics

Technical Skills

- **Programming Languages :** Python, C, R, MATLAB, HTML, CSS, JavaScript
- **Machine Learning & Deep Learning :** scikit-learn (Linear Regression, Random Forest, Gradient Boosting);
  PyTorch, TensorFlow (CNN, LSTM, RNN, objects Detection)
- **Data Analysis & Visualization :** Pandas, NumPy, Matplotlib, Seaborn, Jupyter
- **Frameworks & Cloud Technologies :** Flask, React, AWS
- **Database & Tools :** SQL, Excel, Unix/Linux, Git
- **Scientific Domains :** Artificial Intelligence, Astronomy, Astrophysics, Cosmological Data Analysis

Selected Certifications

- **Data Analysis with Power BI and Artificial Intelligence** (Power BI, Manus AI) *March 2026*
- **DARA Basic Training** (Data Reduction, Data Analysis) *March 2026*
- **Introduction to Data Visualization** (Power BI, DataWrapper, Google Sheet) *February 2026*
- **Introduction to Coding Through Play** (HTML, CSS, Python, Data Science) *February 2026*
- **Using AI in Your Professional Journey** (Orange Digital Center) *February 2026*
- **Infrastructure for AI and Software Development** (Git, GitHub, Docker) *January 2026*
- **British English Pronunciation Practice** (Speaking Skills) *January 2026*
- **Mathematical Logic** (Coursera) *December 2025*
- **DARA Computer Training** (Linux Environment, Python) *August 2025*
- **BRICS Astronomy Project** (Data Analysis & Machine Learning) *July 2025*
- **American English Speaking Practice** (Communication Skills) *May 2025*
- **Hack4dev Hackathon** (Deep Learning, CNN) *April 2025*

Professional Memberships

- **Malagasy Astronomical Society (MASS)** – Member participating
- **Benty Fields Astronomy Research** – Collaborative research group member
- **Sakay Young Students Association (AJES)** – Education volunteer and Activities
- **ASCUT** – University Sports and Cultural Association

Additional Information

Languages: Malagasy (Native), French (Intermediate), English (Intermediate)
Interests: Data science, Data Analysis, Radio Astronomy

References

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