

CEDRIC P.-E. MANOUAN

DEEP LEARNING ENGINEER - AI SPECIALIST

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WORK EXPERIENCE

S T Consultant – AI Associate Specialist

April 2024 – *present*

International Finance Corporation (IFC), World Bank Group

Abidjan, Côte d'Ivoire & Remote

- AI and Startup Ecosystem Policy Research (West and Central Africa)
- Evaluation of AI-powered local solutions developed in agtech, healthtech, createch, e-mobility, e-transport, and edtech
- Organized and coordinated stakeholder consultations, workshops, and roundtable discussions engaging diverse stakeholders in collaboration; support with administrative tasks.
- Data Analysis on funding mechanisms, regulatory barriers, and innovation support programs.
- TTLs: Mrs. Meritxell Martinez, Ms. Menan Omar

Consultant - Lead AI Engineer

July 2024 – June 2025

Carnegie Mellon University Africa (CMU-Africa), Wakanda AI, AFRETEC Network

(Remote) Kigali, Rwanda

- Contributed to the drafting of the cross-university research proposal
- R&D: Speech processing, Language modeling, Seamless communication in African languages
- Team Assistant for administrative, monitoring, and coordination tasks

Consultant - Rwanda AI Readiness Assessment (AIRA)

October 2023 – March 2024

Techclick, UNDP & Ministry of ICT and Innovation (MINICT)

Kigali, Rwanda

- Supported the UNDP team with the qualitative assessment of the AI landscape
- Conducted interviews with key informants from government institutions
- Contributed to clarifying the roadmap for the implementation of the National AI Policy

Research Associate (AI & Robotics)

May – December 2023

Carnegie Mellon University Africa (CMU-Africa)

Kigali, Rwanda

- Assisted Prof. David Vernon with the development of a Semantically-modulated Joint Episodic-Procedural (S-JEP) Working Associative Memory
- Proposed and implemented RT1-CRAM, a candidate S-JEP architecture
- Managed and executed compute-intensive jobs on a supercomputer using Slurm for job scheduling and resource allocation

Graduate Research and Teaching Assistant

Fall 2022 & Spring 2023

Carnegie Mellon University (Remote)/CMU-Africa (In-Person)

Pittsburgh, PA / Kigali, Rwanda

- Assisted Prof. Bhiksha Raj in [11785 - Introduction to Deep Learning](#):
 - * Developed automated grading scripts for evaluating ML/DL modules
 - * Conducted ablation studies across speech recognition, face classification, and Speech-to-Text using state-of-the-art models
 - * Prepared and co-led homework assignments on Image processing and Language Modeling
- Assisted Dr. Moise Busogi in [04800-AB Machine Learning for Earth Observation \(ML4EO\)](#):
 - * Research project in ML4EO supervised by Dr. Moise Busogi:
[Reba: Rethinking Malaria Prevention Through Satellite Earth Observation](#)

AI Analyst Intern

June 2022 – July 2022

Ivorian Electricity Company (CIE)

Abidjan, Côte d'Ivoire

- Initiated work on EasyBot: (French) Text analysis and classification with NLP techniques
- Data preparation for text messages received from a chat application
- Development of baseline AI models leveraging TF-IDF and BoW

Software Engineering/Data science Intern

April 2021 – July 2021

Zindi

Remote from Senegal

- Supported with the preparation of data science competitions

- Prepared starter notebooks and built baseline ML models

Developer Intern

May 2019 – July 2019

BSc. End-of-Cycle Project - First Class Honors/Mention Très Bien

Project of Digital Solutions for the opening up of Rural Areas and e-Agriculture

(PSNDEA): [Thesis \(French version only\)](#)

Abidjan, Côte d'Ivoire

- Built an Internet of Things (IoT) system for data acquisition in a cassava field; System design used a Raspberry Pi running tensorflowJS
- Developed a NodeJs REST/CRUD API using MySQL to manage both sensors and farmers inputs
- Developed and deployed a regression model to predict the yield of a given field based on real-time and stored data

EDUCATION

Master of Science | *Information Technology - Applied Machine Learning*

August 2021 – May 2023

Carnegie Mellon University - College of Engineering, CMU-Africa

Kigali, Rwanda

Master of Science (Semester 7) | *Information Systems and Software engineering*

October 2019 – March 2020

Ecole Supérieure Africaine des TIC (ESATIC)

Abidjan, Côte d'Ivoire

Bachelor of Science | *Systems, Computer Networks and Telecommunications*

October 2016 – September 2019

Ecole Supérieure Africaine des TIC (ESATIC)

Abidjan, Côte d'Ivoire

SKILLS

Consulting: AI Policy, AI engineering; project Management.

Programming (Python/C++) & Software/AI Engineering: Data structures and Algorithms; Deep Learning (PyTorch/Lightning; Transformers); API development (FastAPI/NodeJS), Amazon Web Services (AWS/EC2), Job scheduling, resource management, and batch script development on HPC systems (SLURM).

HONORS AND AWARDS

Mastercard Foundation Scholarship

2021 – 2023

To support international students joining graduate programs at Carnegie Mellon University.

Completed the Marketplace Readiness Leadership Training Programme.

Rwanda, Kigali

LEADERSHIP & COMMUNITY INVOLVEMENT

ACCESS Researcher Advisory Committee Member

2023 - 2025

Making suggestions to improve allocations, support, and operations.

Remote

International Conference on Learning Representations (ICLR)

Spring 2023

Volunteered at ICLR 2023, actively contributing to assisting attendees, and ensuring smooth operations.

Acknowledged with a certificate of appreciation available [here](#).

Rwanda, Kigali

Data Science Club

December 2021 – November 2022

President and Coordinator

Rwanda, Kigali, CMU-Africa

Zindi University Ambassador

June 2020 – July 2021

Co-lead of the platform development group (improvements and new ideas)

Côte d'Ivoire, remote

REFERENCES

- | | | |
|--------------------------------------|---|------------------------|
| 1. Prof. Bhiksha Raj | Professor, Language Technologies Institute, CMU | bhiksha@cs.cmu.edu |
| 2. Prof. Mark Kryder | Emeritus ECE Professor, CMU | mk6x@andrew.cmu.edu |
| 3. Dr. George Okeyo | Director of Academics, CMU-Africa | gokeyo@andrew.cmu.edu |
| 4. Dr. Moise Busogi | Assitant Teaching Professor, CMU-Africa | mbusogi@andrew.cmu.edu |
| 5. Paul Kenedy | Chief of Staff, Zindi | paul@zindi.africa |

FEATURED PROJECTS

Wakanda AI - Advanced Speech Technologies for African Languages (2024-2027) | CMU-Africa

Role: Consultant (AI Engineer), Principal Research Associate

\$250,000 Research grant to Advance the Inclusive Digital Transformation of Africa, funded by the Mastercard Foundation through the AFRETEC Network.

- PI: Prof. Bhiksha Raj, Language Technologies Institute, Carnegie Mellon University
- Co-PIs: Dr. Moise Busogi (CMU-Africa), Dr. Abraham Nyete (University of Nairobi)

Artificial Intelligence Policy | Kigali

Dec. 2023 - Jan. 2024

Independent analysis of the Rwandan Case:

- A Light Economic Analysis of Rwanda's National AI Policy. [Check analysis](#)
- A Strategic Proposal for AI Implementation in Rwanda. [Check analysis](#)

NLP & Robotics - Robotics Transformer for CRAM (RT1-CRAM) | CMU-Africa

Fall 2023

PyTorch re-implementation of RT-1 for the generation of actions represented as

sequences of text tokens composed of the parameters to a CRAM generalized action plan.

Project link: [S-JEP \(RT1-CRAM\)](#)

Course projects - Recommender Systems | CMU-Africa

Fall 2022

Individual and Collaborative projects

- Developed a Content-Based Recommender system for scientific papers as part of my personal project.
[Check project report](#) | [Check source code](#)
- Contributed to the development Session-based, Context-aware Recommender System in an Online Travel Domain.
[Check Project report](#)

Hackade ARC AGI - Abstract Reasoning Challenge | ZINDI

July 2025

Built an LLM-based model that solves variants of ARC-AGI puzzles with about 32% accuracy.

Proposed solution tested on both Mac (MLX) and CUDA-enabled workstations.

Got selected as an official winner of a sponsored flight to attend Deep Learning Indaba 2025.

Ranking: 10th, [_MUFASA_ on the leaderboard](#)

Project link: [ARC Challenge Africa](#)

Data science competition - Image classification | ZINDI

Fall 2020

Developed a machine learning model to classify Tuberculosis and Normal X-Ray images for an educational purpose.

Ranking: 7th, [Team DataLabCI on the leaderboard](#)

Project link: [Tuberculosis X-Rays classification](#)

Data science competition - Audio classification | ZINDI

Fall 2020

Contributed to the development of a machine learning model to classify audio utterances in Luganda and English from Uganda.

Ranking: 7th, [Team wakanda on the leaderboard](#)

Project link: [GIZ-NLP-Agricultural-Keyword-Spotter](#)

Data science hackathon - Image classification | ZINDI

Fall 2020

Contributed to the development of a machine learning model to identify whether a person in an image is wearing a face mask or not.

Ranking: 3rd, [Team TheCIA on the leaderboard](#)

Project link: [Face mask classification](#)

1st prize Hackathon Level 2 (48h) - Image recognition | ESATIC

May 2018

Contributed to the development of a deep learning model to recognize West African bank notes and coins.