# **CONTACT**

# **TOE Marcel Jocelyn Wendemi Michaelange**

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# PERSONAL INFORMATION

Date De Naissance : 20/05/1997
Nationalité : Burkinabè
Genre : Masculin

GitHub : https://www.github.com/C0d9Hunter

## **EDUCATION** -

2023 (4 months)

• Shanghai Second Polytechnic University Web development - exchange student

2019-2021

High school of computer science / Nazi Boni University
 Master degree in Data Science

2016-2019

High school of computer science / Nazi Boni University
 Licence option Ingénierie des systèmes d'information

2015-2016

 Mollo Sanou Provincial High School Scientific Baccalaureate

# PROFESSIONAL EXPERIENCE -

Jan. 2024 - In progress

- Research assistant in Artificiel Intelligent and Data Science WASCAL
  - Collected, cleaned, corrected, and imputed millions of data points from 53 automatic weather stations.
  - Creation of over 300 Al models for the imputation of several variables (temperature, humidity, global solar radiation, pressure, etc.) from 53 weather stations.
  - Developed a web application to visualize, compare, and download these data

Jun. 2023 - Jan. 2025

- Web and Mobile Applications Development Consultant CIRDES - CIRAD
  - Mobile application development "Coprodscope": Designed and developed a
    mobile app to collect agricultural producers' surveys on plant and animal coproducts. The app streamlined field data collection, facilitated result
    analysis, and provided personalized recommendations to producers for
    optimizing the use of their co-products.
  - Web administration interface development: Built a comprehensive web application serving as an administration dashboard to upload, manage, and analyze data transmitted from the mobile app. The interface centralized data management, improving processing efficiency and enhancing the quality of reports and recommendations provided to producers.

Apr. 2024 - Sep. 2024

Web Application Development Consultant

Confédération paysanne du Faso (CPF) - CIRAD

 Developed a web application integrated with the KoboToolbox API to retrieve and analyze survey data on onion and soybean in Burkina Faso. The application computes 27 key indicators, enabling in-depth data analysis and Jan. 2023 - Jun. 2023

# Data Specialist

Open Burkina

- Designed and modeled robust, scalable databases tailored to the company's specific needs.
- Standardized data in compliance with open data standards, ensuring interoperability and accessibility for global use.

Oct-Dec. 2022 -Mar-May. 2023

# • Survey Data Analysis Consultant

**CIRAD** 

- Cleaned and prepared household, livestock, and farm survey data in Burkina Faso to ensure quality and consistency.
- Modeled a database in Access to efficiently organize and manage collected data.
- Analyzed data, calculated key indicators, and interpreted results using R, providing actionable insights to support decision-making.

Mar. 2022 - Dec. 2022

# · Lead essitech community

Essitech

EssiTech Community is a community of passionate developers who come together to share experiences and exchange ideas on various topics such as programming languages, eco-design, open source and free software, big data, and much more.

Nov. 2021 - Jun. 2022

#### Python, PHP, Laravel Trainer

Essitech

As part of the Orange Digital Center program, aimed at training 200 young full-stack developers in Laravel and Symfony technologies, I delivered courses on PHP (basic and object-oriented), Python, as well as the Laravel framework, over a 6-month period.

Nov. 2022 - Jan. 2023

#### Web Application Development Consultant

INERA

Developed a web application to present data on livestock feed types by region in Burkina Faso, along with analysis samples of these feeds.

Aug. 2021 - Jan. 2022

# · Data Science intern

PAM - DGAHDI - Ouaga

As part of my Master's thesis internship, I worked on solutions to improve the sharing of information on agricultural practices with African farmers, particularly in Burkina Faso, within a WFP Burkina project. The internship focused on two main objectives:

- Developed a voice server based on Asterisk, enabling farmers to access information via their mobile phones.
- Created a knowledge graph-based recommendation system to provide agronomists with targeted resources.

Technologies: Python, Neo4j

Aug. 2019 - Nov. 2019

# Web development intern

Siralabs

During my Bachelor's thesis internship, I was responsible for designing and developing a project monitoring platform for startups. The platform tracks the different incubation phases of innovative projects within the company.

# **ACQUIRED SKILLS** -

# · Operating Systems

Ubuntu, Kali Linux, Linux Mint, Parrot OS, Cyborg

Windows 7/8/10/11

macOS Sonoma

# Office & Productivity Tools

Microsoft Office (Word, Excel, PowerPoint, Access) Google Docs, Google Sheets, Google Forms

# • Programming Languages

PHP, Python, JavaScript, TypeScript, CSS, SQL

**UML** 

#### Databases

PostgreSQL, MySQL, SQLite, Microsoft Access

MongoDB (basic knowledge)

Neo4j (graph database)

#### Web & Backend Frameworks / APIs

Laravel, Flask API, Django REST Framework, FastAPI, Laravel API

# Frontend & Mobile Development

Angular, Ionic, Java (Android), Streamlit

# Data Science, Al & Machine Learning

R, Python (OpenCV, Pillow, Scikit-learn, NumPy, Pandas, Matplotlib, BeautifulSoup, TensorFlow)

Power BI, Talend (basic knowledge), KoboToolbox

#### Version Control & DevOps

Git, GitHub, GitLab

Docker

Apache, Nginx, Heroku

#### · Virtualization & Environments

VMware Workstation, VirtualBox

# · Open Data & Standards

CKAN (open data platform)

Swagger (API documentation)

REST API, Open Data Standards

## **PROJECTS**

## WASCAL Hydrometeorological weather network

Developed a web application to visualize and compare, through interactive charts, data from 53 automatic weather stations, ERA5 reanalysis, and Al models. Tech stack: Laravel, JavaScript, PostgreSQL, Python.

# Management of animal and plant by-products

Developed a web and mobile application for managing animal and plant by-products on behalf of CIRDES and CIRAD.

Tech stack: Laravel, Angular, PostgreSQL, Ionic, SQLite. https://coprodscope.cirad.fr/

## · Open data portail

Open Data Platform of Burkina Faso. Tech stack: CKAN, Python, PostgreSQL, Nginx.

#### Agricultural Value Chain Application

Developed a functional prototype of an agricultural and livestock value chain application.

Tech stack: Laravel, PostgreSQL

## Financial Credit Management Application

Developed and deployed API endpoints for the application's Laravel backend. Tech stack: Laravel, PHP, Swagger, REST API, PostgreSQL.

#### Livestock Feed Resource Management

Modeled and designed a feed resources database and a Django web interface to make INERA's livestock feed data accessible.

Tech stack: Django, Python, PostgreSQL

# • Web and Mobile Application for Tomato Plant Disease Detection

This project aimed to detect tomato leaf diseases using a classification model for 9 types of viruses that can affect the plant.

Tech stack: Python, OpenCV, Scikit-learn, Streamlit, Java (mobile application). https://github.com/C0d9Hunter/Tomatoes-Plants-diseases-detection-video

#### Web Application for Image and Video Editing

This web application, built with Streamlit, is designed for image processing using the Python OpenCV library.

https://github.com/C0d9Hunter/Images-and-Videos-editing-webApp

# **ACHIEVEMENT AND AWARDS**

- Award: 3rd Prize Hackathon SN 2021 This hackathon, held during the 17th edition of Burkina Faso's Digital Week, focused on the theme: "Robotics and Artificial Intelligence in addressing security and defense challenges."
- Award: 1st Prize Hackathon BISEMWeb 2021 (1st Edition) This hackathon aimed to develop solutions related to sickle cell disease using existing data and an Albased system.
- Award: 1st Prize Hackathon MDENP 2019 Organized by the Ministry of Digital Economy Development and Postal Services of Burkina Faso, where we proposed

Roseta, a solution enabling the inclusion of hearing-impaired students in the mainstream education system.

# **CERTIFICATS**

• Python: PCEP

Certifiés Entry-level Python programmer

· CAN Data for Health and Climate

Certificate in Data Science Skills Enhancement to Address Climate and Health Challenges

• Capacity building on high performance computer operation and management Training on HPC management

#### LANGUAGE

French: C2English: B1

## REFERENCES

Dr. Abdoul Aziz Belko Diallo - WASCAL

Head Data management diallo.b@wascal.org

• M. Idriss Tinto - Open Burkina

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• M. Alexis koalla - Essitech group

CEC

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• Prof. Sadouanouan Malo - Université Nazi Boni

Lecturer and Researcher sadouanouan.malo@gmail.com