

# Ornela Megne, ML Researcher

Baden-Württemberg, Germany

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## 📁 Work Experience

### Research Intern

- Apr 2024 – present **Medical Image and Data Analysis (MIDAS.lab)**, Germany.  
Working with Deep Learning models to automate lesion segmentation and tracking in Positron Emission Tomography (PET) and Computer Tomography (CT) hybrid image modalities.  
Skills : Medical Image Preprocessing, Transfer Learning, Fine-tuning.

### Machine Learning Intern

- Apr 2023 – Apr 2024 **Kera health Inc**, Senegal.  
Working with Large Language models (GPT, Llama) to develop a content filtering system for identifying and excluding unsuitable health-related queries.  
Skills : Web Scraping, Prompt Engineering, Retrieval Augmented Generation (RAG).

### Teaching Assistant

- Jan 2023 – Apr 2024 **AIMS - African Masters of Machine Intelligence (AMMI)**, Senegal.  
Assisting in teaching foundational to advanced machine learning and Deep learning courses including Computer Vision, Natural Language Processing, Kernel methods, etc.  
Skills : Teaching, Mentorship.

### Data Science Intern

- Aug 2021 – Nov 2021 **Centre d'Excellence Africain en Mathematiques Informatique et TIC**, Senegal.  
Exploring climate data to understand and extract variables related to carbon flux exchange in the atmosphere using machine learning techniques.  
Skills : Data Cleaning, Data Visualization, Model Building, Feature Engineering..

## 🎓 Education

- 2022 – 2023 : **Master's degree in Machine Intelligence**, *African Masters in Machine Intelligence (AMMI)*, Senegal.  
Thesis: Automated Detection Of Pulmonary Tuberculosis From Lung Ultrasound on 377 Adults with Lower Respiratory Tract Infection in Benin and South Africa.
- 2020 – 2022 : **Master's degree in Mathematical Sciences (Major: Big Data)**, *African Institute for Mathematical Sciences (AIMS)*, Senegal.  
Thesis: Exploration of climate data and prediction of carbon flux using machine learning: The case study of Nalohou station in Benin.
- 2018 – 2020 : **Master's degree in Physics (Major: Electronics)**, *Faculty of Physical Sciences, University of Dschang*, Cameroon.  
Thesis: Contribution to the modeling and adaptive robust control of a fractional order DC/AC converter.
- 2015 – 2018 : **Bachelor's degree in Physics (Major: Electronics)**, *Faculty of Physical Sciences, University of Dschang*, Cameroon.

## 🔗 Projects

- Sep 2023 **Question Answering Chatbot**, [Github].  
Built an app that answers child food and nutrition questions with sourced information.  
Skills : Scraping, Indexing, Embedding, RAG.
- Aug 2023 **Explainable AI app**, [Github], [App].  
Built and deployed an interpretable app that provides predictions and generates visual representation highlighting the regions within the input image that influence the model's classification decision for a specific class.  
Methods : CAM (Class Activation Map) and Grad-CAM (Gradient-weighted Class Activation Mapping).
- Apr 2022 **Breast cancer diagnosis**, [Github].  
Built Machine Learning classifiers that predict whether breast cancer is benign or malignant.  
Methods : Logistic Regression, Support Vector Machines (SVM), Fully Connected Networks (FCN), and Decision Trees as well as their ensembles through Bagging, AdaBoost, and Voting Ensemble learning techniques.

## Skills

Tools 🐍 Python 🖥️ VSCode, Jupyter 👥 Git

Libraries 📦 Pandas, Numpy, Streamlit ⚡ PyTorch, Lightning 🗣️ LangChain 📊 Scikit-Learn

Languages 🇬🇧 English (Advanced), 🇫🇷 French (Native)

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## Certifications

- 2023 **LangChain & Vector Databases in Production - Gen AI 360**, [\[certificate\]](#).
- 2021 **Data Science & Analytics Intro** - IBM, [\[badge\]](#).
- 2021 **Getting Started with IBM Cloud V2**, [\[badge\]](#).
- 2021 **Data Analysis with Python** - Coursera, [\[certificate\]](#).
- 2021 **Neural networks and Deep Learning** - Coursera, [\[certificate\]](#).
- 2021 **Machine Learning ZINDI Competition**, [\[certificate\]](#).
- 2021 **Zindi Mentorship Programme (Cohort 2)**, [\[certificate\]](#).

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## Scholarships & Awards

- 2024 Recipient of **University of Tuebingen Scholarship** grant by the Cluster of Excellence: New Perspectives for Science, Germany.
- 2022 Recipient of **Full Masters' Scholarship - African Masters in Machine Intelligence program** sponsored by Facebook and Google, Senegal.
- 2021 **Women's prize from Zindi**, participation in the Cameroon Advance Analytic Ultrasound Challenge, Cameroon.
- 2017 – 2020 **Academic Excellence Award grants by the President of the Republic of Cameroon**, Best Students Award, Cameroon.