



“Nothing is out of reach, as long as you just sit down and take the time to read from the beginning.” - Life lesson.

## Skills

- **ML & AI Expertise** : RAG , LangChain, CUDA Programming, YOLO, OpenCV, Pytorch, TensorFlow, Scikit-learn, ONNX Runtime.
- **Data Analysis & Visualization** : PowerBI, Snowflakes, Matplotlib, Seaborn, Pandas .
- **Programming Language** : Python (Professional level), Java (Intermediate), SQL (Advanced), C++ (Intermediate), Bash .
- **Cloud & Ops** : GCP, AZURE, K8S, Docker, MLFlow, GitlabCI, FastAPI .
- **Certification** : **HackerRank** {Advanced SQL, Problem Solving}, AZURE Machine Learning , LinkedIn Python Professional Certificate .
- **Languages**: English (C1 - IELTS: 7.5) , French (C1) , Malagasy (Native).

## Experience and Projects

### SERMA Safety and Security - SERMA GROUP

Rennes, France

#### MACHINE LEARNING ENGINEER INTERN

Feb. 2024 - Aug. 2024

- Ideated and developed a ML model to analyzer a Printed Circuit Board component using YOLO, OCR and Fuzzy Matching, **reducing component misidentification by 35%** and enhancing data retrieval accuracy.
  - Built a fully automated CI/CD pipelines with gitlabCI and MLFlow, **reduced overall time spent on Hardware inspection to up to 50%**.
  - Developed a POC on the usage of Graph RAG with local documents and Selfhost Llama3 and Neo4J.
- Tech Stack:** Yolo, OpenCV, OCR, RAG/GraphRAG, LLM, Pytorch, Kubernetes, Docker, Neo4J, Python, GitLab.

### IMT Atlantique - Research

Rennes, France

#### DATA ANALYST INTERN

May 2023 - Sep 2023

- Identified key factors affecting energy consumption in Cellular Networking and developed targeted strategies to address them.
  - Implemented multiprocessing and LRU cache in Python to improve computational time, reducing data processing time by +80%.
  - Collaborated with network engineers to implement energy-saving strategies based on data analysis, streamlining data-sharing processes.
  - Applied the approach to real traffic load data in Rennes, **saving up to 20% of energy**.
- Tech Stack:** ANFR Dataset, 5G , PowerBI, Pandas, Python, GitLab, Matplotlib, scikit-learn.

### Personal Projects

Rennes, France

#### SYSTEM ARCHITECTURE AND SCHOOL PROJECT

2022 - Present

- Led a team of 13 in designing and deploying the SuperApp azplus.mg, ensuring seamless migration to GCP/Microservices.
  - Developed a Euro coin recognizer using OpenCV and YOLO for mobile devices for my girlfriend's coin collection
- Tech Stack:** GCP, AWS, Kubernetes, Minio, Elasticsearch, Yolo, OpenCV, Python, Docker, SQL, JAVA.

### Videotron Inc.

Cairo, Egypt

#### JUNIOR DATA ANALYST

2020 - 2022

- Developed data-driven strategies that **increased customer satisfaction from 80% to 95%** over a 1 year period
- Conducted agent performance analysis, resulting in a 20% improvement in KPI achievements and identifying training needs.

## Education

### University of Rennes & EIT Digital Master School

Rennes, France

#### M.SC IN CLOUD AND NETWORK INFRASTRUCTURE, MINOR: INNOVATION AND ENTREPRENEURSHIP

Sept. 2022 - Aug. 2024

- Specialized in smart city services, big data, distributed systems, advanced cloud infrastructure, and fog computing.
- Grade: Good.

### Faculty of Computers and AI - Cairo University

Cairo, Egypt

#### B.SC. IN ARTIFICIAL INTELLIGENCE, MINOR: INFORMATION SYSTEMS

Sep. 2016 - Aug. 2020

- Grade: Very Good.
- Secured a mixed Egyptian and Malagasy Government Scholarship for outstanding grades.

## Extracurricular Activities and Interests

### ELTE University, Informatics Faculty

Budapest, Hungary

#### SUMMER CLASS WITH ERASMUS+ (SCHOLARSHIP)

Jun. 2023 - 2 Weeks

- Showcased engineering background through an innovative project (V2V Grids) and delivered an engaging pitch. (**Core Values: Leadership, teamwork, pitching, innovation, technology watch, project management.**)

#### INTERESTS

- Reading , Competitive Programming on Leetcode , Cinema