



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

## Summary

I am a dedicated and results-driven Machine Learning Engineer with extensive experience in cloud computing and artificial intelligence. I specialize in developing and deploying machine learning models, optimizing cloud infrastructure, and implementing data-driven solutions. With a strong educational background and hands-on experience, I am committed to leveraging technology to solve complex problems and drive innovation.

**I am seeking a role and opportunity from which I can learn and grow, while showcasing my know-how.**

## Experience and Projects

### SERMA Safety and Security - SERMA GROUP

Rennes, France

#### MACHINE LEARNING ENGINEER INTERN

Feb. 2024 - Aug. 2024

- Developed a Printed Circuit Board components Recognizer which extract all its main characteristics and reference with YOLO and OCR. Added a layer of Fuzzy Matching to enhance the model robustness in order to retrieve the right component datasheet.
- Customized LLMs and LLM4Decompile Model on local cluster machines for company-related use cases and reverse engineering tasks.
- Built fully automated CI/CD pipelines from a self-hosted GitLab to a local cluster machine using K8s and Ansible.
- Reduced overall time spent by hardware pentesters on security assessments.

**Tech Stack:** Yolo, OpenCV, OCR, RAG/GraphRAG, LLM, Pytorch, Kubernetes, Docker, Ansible, Python, GitLab.

### IMT Atlantique - ADOPNet Team

Rennes, France

#### RESEARCH ASSISTANT INTERN

May 2023 - Sep 2023

- Developed strategies to save energy for mobile networks based on key factors, improving the EARTH Model.
- Acquired and prepared data (ETL with PowerBI) from ANFR and used queue learning for future traffic load adaptation.
- Applied the approach to real traffic load data in Rennes, saving up to 20% of energy.

**Tech Stack:** 5G, PowerBI, Pandas, Python, GitLab, Matplotlib, scikit-learn.

### Personal Projects

Rennes, France

#### SYSTEM ARCHITECTURE AND SCHOOL PROJECT

2022 - Present

- Designed and deployed the SuperApp azplus.mg based in Madagascar, moved the infrastructure to GCP/ Microservices.
- Developed a Euro coin recognizer using computer vision for mobile devices.
- Worked on cloud-based noise processing with Raspberry Pi for queue prediction and speech-to-text using NLP.

**Tech Stack:** GCP, Kubernetes, Minio, Elasticsearch, Yolo, OpenCV, Whisper, Python, Docker, Keras, SQL, JAVA.

### Videotron Inc.

Cairo, Egypt

#### IT SUPPORT AND TRAINER

2020 - 2022

- Responsible for antivirus management, AWS S3 backup recovery, and network maintenance.
- Escalated major cases to the engineering team.

## 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.
- Grade: Excellent.

**Core Values:** Leadership, teamwork, pitching, innovation, technology watch, project management.

#### SKILLS AND INTERESTS

- Soft Skills: Leadership, teamwork, commitment, problem-solving, documentation, engaging presentation, article writing.
- Certificates: Deep Learning with Pytorch, ML Pipeline with Azure ML, Data Visualization using Plotly.
- Languages: English (C1 - IELTS: 7.5), French (C1), Malagasy (Native).