

# Maher Sadok Messaoudi

Software engineer / AI engineer

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## Education

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Master of Science (M.Sc.) in IT

*École de Technologie Supérieure*

2023 – Ongoing

*Montreal, Canada*

Master of Science (M.Sc.) – Cyber Security and Intelligent Industry

*Faculty of sciences of Sfax*

2021 – 2022

*Sfax, Tunisia*

Bachelor of Science in Industrial Computer Science

*The National School of Electronics and Telecommunication of Sfax*

2016 – 2021

*Sfax, Tunisia*

## Experiences

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AudioZ

*AI Engineer*

May 2023 – Ongoing

*Montreal, Canada*

- Engineered a **Visual Dubbing pipeline** to synchronize spoken dialogue with characters' lip movements in video content, optimizing multimedia products for wider engagement.
- Integrated **AWS-S3** for secure and scalable storage of large-scale audio-visual datasets.
- Developed a **Generative Neural Network** model (**GAN, Diffusion**) data to produce high-quality, lip-synchronized dubs using audio-video data.
- Built a serverless backend system with **AWS Lambda** and **Python** to automate the processing and tagging of multimedia files stored in **AWS S3**.

W.A. IT Advisory

*Machine Learning Engineer - Remote*

January 2023 – May 2023

*Tunis, Tunisia*

- Analyzed 5GB of data from the smart grid system using **Wireshark**.
- Enhanced the company's security by implementing a **Deep Neural Network** model to detect six unknown cyber threats.
- Deployed and maintained the machine learning pipeline using **FastAPI**, **Docker**, and **Gitlab CI**.

Texas A&M University

*Machine Learning Engineer*

February 2022 – December 2022

*Doha, Qatar*

- Scripted an automated code to collect data from +1000 PDF files using **Python** libraries and inserting them into a **SQL database** to help data scientists estimate motors breakdowns in a research project with Shell lab in Qatar.
- Developed a classifier of mechanical rotating faults with an imbalanced dataset and using a **Deep Neural Network** model which achieves 97% of accuracy, to estimate useful lifetime in electrical distribution systems.
- Interpreted more than 10GB of data to identify trends, patterns, and other helpful information in an electrical partial discharge research project.

Primatec Engineering

*DevOps Engineer*

July 2021 – December 2021

*Sfax, Tunisia*

- Orchestrated a **Jenkins** CI pipeline for the BMW autonomous driving project, achieving a 30% increase in deployment efficiency and significantly reducing integration errors.
- Authored **Python** and **PowerShell** scripts to automate and streamline data processing and code updates, leading to a 20% improvement in workflow efficiency.
- Managed **Git** for version control, enhancing team collaboration and code management efficiency.

- Processed, cleaned, formatted, and analyzed data using **NumPy**, **Pandas**, and **Tableau**.
- Built an **NLP model** by fine-tuning **BERT** to classify test requirements and predict the number of possible scenarios and achieved a 30% improvement in the approval decision time.
- Designed an internal web application using **Angular 11**, **Flask**, **RestAPI**, and **MySQL** that deploys the Machine Learning solution and supports the actions of the software testing team.

- Participated in the development of a medical web application using **Angular 11** and **Spring Boot**.
- Implemented an information extraction tool to extract data from prescription images using **OCR**, and increased agility and accuracy with a centralized system, that achieve the satisfaction of 8 clients.
- Created a CI/CD pipeline for a web application using **Docker** and **Gitlab CI**.
- Strengthened pipeline security using **Gitleaks** for scanning code and verifying the existence of sensitive data also using **Trivy** to scan docker images to detect vulnerabilities.

## Skills

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**Programming Languages:** Python, Java, JavaScript

**Frameworks:** Flask, Angular CLI ,Spring Boot

**Data Science:** TensorFlow, PyTorch, Keras, Deep Learning, NLP, OCR, Generative AI

**DevOps Tools:** Git, Gitlab CI, Docker, Jenkins, Kubernetes, ELK stack

**Database:** SQL, Hadoop

**Security Tools:** IDS (Snort), Nmap, Trivy, Gitleaks

**Project Management:** Scrum, Kanban, Agile, Jira

**Soft Skills:** Multitasking, Problem solving, Communication, Teamwork

## Achievements

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- Certified Kubernetes Application Developer (CKAD) - Ongoing
- Certified Microsoft Azure Fundamentals ( AZ-900 ) - 2022
- Published a Conference paper in IECON 2022 as a first author. **DOI:10.1109/IECON49645.2022.9968875**
- Animated more than 10 workshops on introduction to Artificial intelligence for teenagers.
- Won the 1st prize in the “Post Covid Online Ideas competition 2020” organized by 4C Enetcom and Leipzig University.
- Ranked 4/266 in the competition UmojaHack Africa 2021: Sendy-Delivery Rider Response Challenge.

## Languages

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**English:** Advanced

**French:** Advanced

**Arabic:** Native