





Driven Data Scientist/ML Engineer with an Engineering degree and Master's in Computer Science from ESI, Algeria. A proven problem-solver; I quickly mastered analytical techniques during an internship at Université de Sherbrooke and AI-driven analytics as an AI Researcher at Université Laval, Canada, using LLMs and NLP models to deliver actionable insights. Based in Riyadh, I bring sharp intelligence and rapid learning to align data analytics with business goals, creating smart decision support.

 ia\_bouaziz@esi.dz

 Riyadh, Saudi Arabia

 <https://bouazizamina.github.io/MyResume/>

 +966 50 362 3243

Languages

**French**

Professional [TCF](#)

**English**

Professional

**Arabic**

Native

Skills

**Data science**

- Python
- R
- matplotlib, numPy, Scikit-Image
- pytorch
- astra ToolBox
- LLMs
- NLP

**Database**

- PostgreSQL
- Oracle
- MongoDb
- PhpMyAdmin

**Algorithmic and programming**

- C
- C#
- Java
- SpringBoot

**Virtualization**

- Docker
- Kubernetes

**Operating systems**

- Windows
- Linux(Redhat, Ubuntu)

Education

From 2018 to 2023

**Master's and Engineering Degrees**  
[Higher School of Computer Science \(ESI\)](#) Algiers, Algeria  
Graduated with honor

From 2015 to 2018

**Baccalaureate**  
[Nedjay Othman High School](#) Batna, Algeria  
Rating: [Excellent \(18.26 / 20\)](#)

Experiences

From February 2025 to April 2025

**Freelance ML/AI Enginner**

- Analyzed and supported the development of custom AI solutions for diverse use cases.
- Developed a sentiment analysis solution using LLMs to classify comments as positive or negative.
- Implemented a smart reply feature powered by OpenAI models.

From September 2023 to December 2024

**PhD Student and Researcher**  
[Laval University](#) Quebec, QC, Canada

- Conducted doctoral research on leveraging Large Language Models (LLMs) for the automated decomposition of software applications into microservices, developing innovative approaches to enhance scalability and modularity.
- Co-authored and presented the paper "[An Empirical Study on Microservices Deployment Trends, Topics, and Challenges in Stack Overflow](#)" at IEEE SANER 2025, in collaboration with Professors Mohamed Aymen Saied, Mohammed Sayagh, and Ali Ouni, analyzing Stack Overflow discussions to reveal practical microservices adoption insights for industry and academia.
- Worked with research teams to build and test software and AI - based solutions, showing quick thinking and problem-solving in tough technical projects.

From September 2022 to September 2023

**Research Intern**  
[University of Sherbrooke](#) Quebec, QC, Canada

- Built a simulator to process X-ray images using a new method (SSRT) allowing non-invasive visualization of internal structures.
- Contributed to image processing advancements for non-destructive imaging, supporting applications in safe, harm-free object analysis.
- Quickly learned complex algorithms and worked effectively with research teams to meet project objectives, showcasing strong problem-solving skills.

From September 2021 to December 2021

**Software developer intern**  
[Sonelgaz](#) Algiers, Algeria

Design and implement a web application that facilitates the generation of web services.

## Skills

### Web development

- Node Js
- PHP
- Html
- Css
- JavaScript
- JQuery
- Bootstrap
- Angular

### Mobile development

- Kotlin

### Software testing

- Junit
- Mockito
- Selenium
- Cucumber

### Design

- Adobe Xd
- Adobe Illustrator
- Figma

### Others

- Jupyter
- Colab
- Design Pettern
- UML
- Git/GitHub
- Microsoft Office

## Experiences

From September  
2020 to July 2021

### Developer & Graphic Designer School of AI (SOAI) Algiers, Algeria

- Organized and participated in events focused on artificial intelligence, enhancing community engagement and knowledge sharing.
- Created graphic designs, including logos, charts, and posters, using illustration tools to support AI-related events and initiatives.

From September  
2018 to July 2021

### Web Developer Club Scientifique de l'Esi (CSE) Algiers, Algeria

- Maintained club websites and supported digital initiatives.

## Projects

### LLM Application with LangChain and Agent

05/2025

An application designed to answer questions by structuring prompts using chains, while incorporating memory. The related model was evaluated through both manual evaluation and LLM-assisted evaluation methods, and was finally integrated into an autonomous agent.

Technologies: Python, LangChain, Agent, Groq

### AI Agent

05/2025

An AI agent designed to perform specific tasks, such as selecting the most suitable company for sourcing raw materials based on specific criteria provided in a DataFrame. The agent used predefined tools to make decisions, with all its actions and requests tracked and monitored through the Phoenix platform.

Technologies: Python, Smolagents, LangChain, Groq

### Chat Boot

04/2025

An interactive chat system that answers questions based on specific data (docs, webpages, etc.), while considering chat history.

Technologies: Python, RAG, LangChain, OpenAI

### Sentiment app

03/2025

A sentiment analysis solution using LLMs that classify comments as positive or negative.

Technologies: FastAPI, LLMs

### Smart Reply app

02/2025

A smart reply application that generates context-appropriate responses to given emails.

Technologies: Flask, OpenAI

### Replication Package

03/2024 - 06/2024

Developed a replication package for a study on microservices deployment trends, topics, and challenges in Stack Overflow, using topic modeling with BERTopic as presented in the associated [research paper](#).

Technologies: Python, BERTopic, Stack Exchange Data Explorer

### Analyse Antipattern Microservices

01/2023

Analyzed a set of antipatterns in microservice applications and compared the proposed method with three existed approaches.

Technologies: Python

### Computed Tomography Simulator

01/2023 - 09/2023

A CT simulator that process X-ray images using a new method (SSRT), allowing visualization of internal structures of 3D objects.

Technologies: Python, astra toolbox, 3D slicer, SSRT

### Force Graph

11/2022

- Create a visual code on football data, based on the force graph.
- Add interactions such as movement and zoom to the graph.

Technologies: JavaScript, D3.js

## Certificates

### Generative AI with Large Language

**Models** Generative AI, model pre-training, fine-tuning, evaluating LLMs and LLM-powered applications

### Introduction to advanced tomography

Coursera [certification link](#)

### Improving Deep Neural Networks:

**Hyperparameter Tuning, Regularization and Optimization** Coursera [certification link](#)

### Fundamentals of Deep Learning

Nvidia [certification link](#)

### Neural Networks and Deep Learning

Coursera [certification link](#)

### Full-Stack Web Development with React

**Specialization** Coursera

### Modern JavaScript for React JS - ES6.

Udemy [certification link](#)

### Motion Design

Udemy

### UI/UX Design Specialization

Udemy

## Projects

### Crop Detector

08/2022

- Create an AI model and a web application that detects the most suitable crop to plant on a defined soil.

Technologies: Node js, React, Tensorflow, keras, pandas, sklearn, pickle

### Stress Classifier

04/2022

- A classifier model that can distinguish whether a person is stressed or not according to training data such as the degree of stress, heartbeats...

Technologies: Python, flask

### Rental of driverless cars

03/2022 - 06/2022

- My role in this project is to participate in:

1/The design of the architecture of the solution.

2/The design of the database.

3/The implementation of the BackEnd part.

Technologies: Node Js, Postgres, FireBade, Windsor

### Play golf ?

03/2022

- A classification model based on "Decision Tree" and "Naive Bayes" classifiers to determine whether a person is permitted to play golf based on pre-defined categorical weather data.

Technologies: Python, pandas, scikit-learn, numpy, timeit, graphviz

### Mini-compiler

11/2021 - 01/2022

- Implement a mini-compiler that performs the different phases of compilation, namely lexical analysis and syntactic-semantic analysis.

Technologies: Flex, Bison

### VTC Client & Admin

10/2021 - 01/2022

- Design and production of 2 websites:

1/ allows users to post their ads in order to find carriers to deliver their packages.

2/ an admin website that allows them to manage the VTC Client website.

Technologies: Html, Css, JavaScript, Bootstrap, Php

### CirSim

02/2020 - 06/2020

- Design and implement a desktop application that allows students to design and simulate a digital logic circuit.

Technologies: C#, .Net