

# Majdoub Sarra

Fourth-year Software Engineering student at INSAT

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## Profile

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Fourth-year Software Engineering student at INSAT with a strong interest in Machine Learning and Data Science. Currently building practical ML skills through DataCamp and academic projects. Solid background in backend development, databases, and APIs, with motivation to work across the full Machine Learning pipeline from data preparation to model deployment.

## Objectif Professionnel

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Développer mes compétences en BI et Data Engineering au sein d'une équipe Agile en contribuant à l'alimentation, l'analyse et la restitution de données décisionnelles.

## Technical Skills

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### Programming Languages

Java, Python, C, C++, PHP

### Web Development

HTML, CSS, JavaScript, React, Next.js, NestJS, Symfony

### Database Management

- MySQL
- PostgreSQL (queries, joins, CRUD operations)
- PL/SQL
- Relational database design

### Operating Systems:

Unix

### Object-Oriented Programming (OOP)

### Version Control and Collaboration

Git/Github

### Mobile Development

Flutter, Firebase (Real-time Database, Authentication, Firestore, Storage)

### Machine Learning & Data

- Supervised Learning (classification, segmentation)
- Data preprocessing & feature engineering
- Model training & evaluation
- Pandas, NumPy, Scikit-learn
- PyTorch (basics)
- XGBoost (basics)

### Methodologies

- Agile & Scrum (projets universitaires, sprints, user stories)
- Tests unitaires
- Qualité des livrables (documentation, validation)

### Backend & APIs

- FastAPI (REST APIs, CRUD)
- NestJS (academic & personal projects)
- Express.js (basic knowledge)

### Cloud & Tools

- AWS (EC2, S3 – fundamentals)
- Docker (basic usage)
- Git & GitHub

## Education

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2018/09 – 2022/06

### 2018/09 – 2022/06 Baccalaureate Degree

Pioneer High School, Bizerte – October 15, 1963

Earned my Baccalaureate degree in Mathematics with an average of 17.59 ( Tunisian System ) equivalent GPA: 3.8–4.0 (approx.)

2022 – 2027

## Software Engineering

Insat

Insat

Relevant Coursework:

- Web Development Fundamentals
- Database Management Systems
- Algorithms and Data Structures
- Operating Systems
- System Design

## Projects

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2025/11 – 2025/11

### SmartRestaurantService — Computer Vision Project

Developed a real-time restaurant occupancy and table tracking system using YOLO and pose detection to optimize restaurant operations. The platform analyzes live video streams to detect people, tables, chairs, and personal items, providing actionable metrics such as occupancy rates, waiting times, and table status. Built the dashboard interface to visualize metrics and insights.

2025/07 – 2025/09

### Colabios — Influencer Platform

A platform connecting brands with Instagram, TikTok, YouTube, and UGC creators. Features include creator profile management and a search system with filtering and pagination. Built with React, MUI, NestJS, PostgreSQL, and RESTAPI.

2025/03 – 2025/04

### Educational Platform – FullStack Project

A web platform enabling students to book learning sessions by subject and selected time slots. Built with React and NestJS, featuring both REST and GraphQL APIs, PostgreSQL database management, and real-time updates through WebSockets.

2024/03 – 2024/05

### Carpooling Web Application (PHP, Symfony, React)

Worked as part of a team to develop a carpooling web application, facilitating ride-sharing among users.

### Online Library Management System ( Java )

- Developed a comprehensive library management system using Java, applying object-oriented programming principles.

2025/11

### Supervised Classification & Model Evaluation (Academic Project)

- Implemented supervised classification models using **Scikit-learn**.
- Performed data preprocessing, feature selection, and model training.
- Evaluated models using **accuracy, precision, recall, F1-score, and confusion matrix**.
- Analyzed model performance and compared different classifiers.

**Technologies:** Python, Scikit-learn, Pandas, NumPy

2025/11 – 2025/11

### Unsupervised Learning: Clustering Analysis (Academic Project)

- Implemented **K-Means clustering** using Scikit-learn.
- Applied **Hierarchical Agglomerative Clustering (HAC)** using SciPy.
- Analyzed intra-cluster and inter-cluster distances.
- Interpreted clustering results and visualized group structures.

**Technologies:** Python, Scikit-learn, SciPy, Pandas, Matplotlib

## Professional Experience

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2025/08 – 2025/09

### Part-Time FullStack Developer- [TUNIDEV]

- Developed the Search Page with filtering, searching, and pagination functionalities.
- Built the Admin Dashboard, integrating backend APIs and frontend interfaces for

platform management.

- Maintained and optimized existing features to improve performance and user experience.

2025/07

**FullStack Developer Intern - [ TUNIDEV ]**

- Contributed to the development of Colabios, a platform for brands to find and hire top Instagram, TikTok, YouTube, and UGC influencers to create unique content.
- Implemented entity setup and backend structures using PostgreSQL.
- Developed the Settings and Edit Profile section for creators, including CRUD operations for packages (frontend with React + MUI, backend with NestJS).
- Collaborated with the team to ensure maintainable, high-quality code.

2024/11 – 2025/01

**Frontend Developer Intern - [ Colocqui ]**

- Updated the website to enhance user experience.

2024/07 – 2024/08

**Mobile Developer Intern - [ AVIDEA ]**

Developed a module for importing photos from WhatsApp using Flutter and Firebase.

## Certifications

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**Certification : Web Scraping et Prompt**

**Engineering**

Acquisition de compétences en extraction de données web et en conception de prompts efficaces pour l'IA.

**TOEIC Listening & Reading**

- Score total : **855/990**
- Reconnaissance de compétences avancées en **compréhension orale et écrite en anglais**.

**DataCamp – Machine Learning & Data Science**

**Track (Ongoing)**

- Introduction to Machine Learning
- Supervised Learning with Scikit-learn
- Machine Learning with Tree-Based Models
- Data Manipulation with Pandas
- Introduction to Deep Learning

## Associations

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2023/09 – 2024/06

**IEEE INSAT CS Chapter**

*Member of the chapter, participated in workshops and events organized by the chapter*

2023/09 – 2024/06

**Junior Entreprise INSAT**

*Membre Senior – Pôle Projets*

participation active à la planification et à la coordination des projets de l'entité, notamment **au développement frontend d'un projet en React**, au sein d'une **équipe travaillant avec la méthodologie Scrum/Agile**.

2024/06 – 2025/06

**Junior Entreprise INSAT**

*Responsable RH*

gestion des ressources humaines, recrutement, suivi des membres et organisation d'activités internes.

## Languages

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English



French



Arabic



German

