

Majdoub Sarra

Fourth-year Software Engineering student at INSAT

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📍 Bizerte, Tunisia

Profile

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.

Technical Skills

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)

Programming & Data

- Python (Pandas, NumPy, Matplotlib, Seaborn, Scikit-learn)
- SQL
- Data Cleaning & Preprocessing
- Exploratory Data Analysis (EDA)

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)

Tools

- Jupyter Notebook
- Git & GitHub
- Power BI / Tableau (basic or learning)

Machine Learning

- Supervised Learning: Linear Regression, Logistic Regression, KNN, Decision Trees
- Unsupervised Learning: K-Means, Hierarchical Clustering
- Model Evaluation: Accuracy, Precision, Recall, F1-score

Statistics

- Descriptive statistics
- Probability distributions
- Hypothesis testing (t-test, correlation)

Education

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

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

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

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**.

Data Engineer in Python – DataCamp (Ongoing)

- Building data pipelines in Python using Pandas and SQL
- Working with ETL concepts: data ingestion, transformation, and validation
- Handling structured datasets and preparing them for analytics and ML workflows

AWS Concepts – DataCamp

- Understanding of cloud computing fundamentals, data storage, compute services, and basic cloud architecture concepts relevant to data pipelines and scalable analytics.

Working with the OpenAI API – DataCamp

- Built basic Python applications using the OpenAI API, including prompt design, API calls, and handling structured responses for data-driven use cases.

Associations

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

Senior member

2024/06 – 2025/06

Junior Entreprise INSAT

RH manager

Human resources management, recruitment, member tracking, and organization of internal activities.

Languages

English



French



Arabic



German

