



# Raed Mohamed Amine Hamrouni

📍 Sousse, Tunisia    ✉ Hamrouniraed50@gmail.com    📞 +216 53 481 220

🌐 raed-med-amin-hamrouni    🔄 hamrouniraed07

## 👤 Profile

Future Data Science engineer, specialized in Artificial Intelligence and predictive analytics, with a versatile background including software development experience. Passionate about new technologies and leveraging data to create innovative solutions, I combine technical rigor, collaborative spirit, and the ability to effectively solve complex problems.

## 🎓 Education

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| <b>Polytechnic School of Sousse</b> , Engineering Degree   | 2024–Present |
| • Specialization in Data Science   |              |
| <b>Higher Institute of Computer Science and Communication Technologies (ISITCOM)</b> , Professional Master's Degree          | 2023–Present |
| • Specialization in Web Services and Multimedia  |              |
| <b>Higher Institute of Computer Science and Communication Technologies (ISITCOM)</b> , Bachelor's Degree in Computer Science | 2020–2023    |
| • Specialty: Computer Science and Multimedia   |              |

## 🧰 Professional Experience

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|---|--------------------|
| <b>Data Science Intern</b> , ARSII - Sousse, Tunisia  | Jul 2025–Sept 2025 |
| • Designed a supervised classification model to predict postoperative complications following pediatric circumcision, enabling early identification of risk factors and improved medical follow-up. |                    |
| • Technologies: Python, TensorFlow, NumPy, Pandas   |                    |
| <b>Software Developer Intern (Bachelor's Final Project)</b> , VIVIA - Sousse, Tunisia   | Jan 2023–Jun 2023  |
| • Developed a customer complaints management module for the company's CRM system.   |                    |
| • Objective: Efficiently manage complaints and reduce processing time.  |                    |
| • Technologies: Node.js, React.js, PostgreSQL, Express.js   |                    |
| <b>Software Developer Intern</b> , SASTEC-SKILLS - Sousse, Tunisia  | Jul 2022–Aug 2022  |
| • Developed an online art gallery web application allowing users to sell their artworks.  |                    |
| • Technologies: React.js, Node.js, MongoDB, Express.js  |                    |
| <b>Software Developer Intern</b> , TUS - Sousse, Tunisia  | Aug 2021–Sept 2021 |
| • Developed a game (Wheel of Fortune) allowing customers to win prizes.   |                    |
| • Technologies: HTML, CSS, JavaScript   |                    |

## 🔗 Projects

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|---|-------------------|
| <b>StudyPal (Gamified Learning Platform with Local AI)</b> - GitHub   | Nov 2025–Dec 2025 |
| • Objective: Design a personalized learning platform that generates quizzes adapted to each user's level.                                 |                   |
| • Features: Automatic question generation, intelligent feedback, progressive difficulty, evolving avatars, point system, and leaderboard. |                   |
| • Technologies: Python, FastAPI, SQLite, React, JavaScript, Ollama (Llama 3.2) for local AI.  |                   |

### Hotel Microservices Project - GitHub

Mar 2025–May 2025

- Hotel booking application based on microservices architecture with independent services (users, bookings, rooms, notifications) interconnected via gRPC, GraphQL, REST, and Kafka.
- Technologies: Node.js, Express, Apollo Server, gRPC, Kafka, Docker, OpenRouter (LLM)

### Angular Club Management - GitHub

Apr 2025–May 2025

- Web application for managing football clubs with complete CRUD functionalities for clubs, players, stadiums, and intuitive user interface.
- Technologies: Angular, Node.js, Express.js, MongoDB, HTML5, CSS3

### Biological Age Estimation - GitHub

Feb 2025–May 2025

- Developed a regression model to predict biological age from dermatological data.
- Technologies: Python, Pandas, NumPy, Scikit-learn, TensorFlow/Keras, Matplotlib, Seaborn

### TNDB - The Movie Database - GitHub

Sept 2023–Dec 2023

- Developed a full-stack movie database management web application with JWT authentication, allowing users to browse movies, manage personal lists (watchlist/favorites), rate and comment on movies.
- Technologies: Node.js, Express.js, MongoDB, JWT, HTML, CSS3, JavaScript, RESTful API

## Technical Skills

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**Programming Languages:** Python, JavaScript, TypeScript, SQL, R

**Frameworks & Technologies:** Angular, React.js, Node.js, Express.js

**Databases:** SQL systems (PostgreSQL, MySQL), NoSQL systems (MongoDB)

**Data Science & Machine Learning:** Data exploration, descriptive statistics, supervised and unsupervised learning, regression, classification, clustering

**Deep Learning:** Neural networks, TensorFlow, Keras

**Development Tools:** Visual Studio Code, IntelliJ, Android Studio, Jupyter Notebook, Google Colab

**DevOps:** Docker, Kubernetes, GitHub Actions, Git

**Python Libraries:** Pandas, NumPy, Scikit-learn, Matplotlib, Seaborn

**Data Processing:** Data cleaning, preparation, and transformation

## Activities

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- Organization member of AAICE – African Agribusiness Incubation and Acceleration Investment at University of Sousse 2025
- Team leader at TWISE NIGHT CHALLENGE at Polytechnic School of Sousse 2025
- Team leader at Nuit de l'Info at Polytechnic School of Sousse 2024
- Team member at Nuit de l'Info at Polytechnic School of Sousse 2024
- Participant in IEEEExtreme organized by IEEE at ESSTHS Sousse 2022
- Participant in NODE-JS bootcamp organized by IEEE at ESSTHS Sousse 2022
- Organization team member at Nuit de l'Info at ISITCOM 2022
- Volunteer during the Coronavirus period at Red Crescent 2020

## Languages

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**Arabic:** Native language

**French:** Advanced

**English:** Intermediate

**German:** Beginner