HAROUN BEN AMEUR

Software Engineering Student

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Profile

Fifth-year Software Engineering student passionate about **web development** and **artificial intelligence**. Experienced in designing full-stack web applications and integrating complex systems, I build solutions powered by AI models and agents, combining **RAG**, **text generation**, and **intelligent automation** to create efficient, reliable, and innovative applications.

Experience

Internship – Proxym-IT *July 2025*

Position: AI Developer Intern
Project: FSD File Analysis Platform with Automatic Test Case Generation
Technologies: Python, Django, Elasticsearch, Kibana, Angular, Google Gemini, AI (Generative Models)

- Developed a platform to automate test case generation from Functional Specification Documents (FSD).
- Built a pipeline for document splitting, semantic indexing with Google Gemini embeddings, and AI-based test case generation.
- Designed Django backend to manage file processing and semantic validation.

Internship – Proxym-IT *August 2024*

Position: Backend Developer – Data Engineering Intern
Project: Analysis and Reporting on Project Progress via Git and Elasticsearch
Technologies: Git, GitHub, Elasticsearch, Kibana, Python, Cohere

- Integrated GitHub with Elasticsearch to enhance data management and analysis.
- Implemented fuzzy search and semantic analysis for improved project tracking and visualization.
- Generated performance insights through dynamic dashboards in Kibana.

Projects

Issatso - Classroom Reservation Management System for Department Heads
Technologies: **React, Bootstrap, Redux, Spring Boot, PostgreSQL, WebSockets**
Project: Development of a web application enabling department heads to manage classroom reservations for professors according to specific time slots. The system also allowed professors to submit reservation requests and receive real-time notifications through WebSockets, ensuring efficient communication and scheduling within academic departments.

SmartPath – Intelligent Learning Platform
Technologies: **Next.js, Tailwind CSS, Django REST Framework, PostgreSQL, WebSockets, Eva, LiveKit, Deepgram, Cerebras LLM**
Project: Design and development of an intelligent educational platform featuring AI chatbots and voice tutors enhanced with EVA and personas to improve response relevance and performance, integrating real-time speech recognition and text generation.

CarCare App – Automotive Appointment Scheduling
Technologies: **React, Redux, Django, PostgreSQL**
Project: Design and implementation of a scheduling platform for automotive dealerships, allowing clients to book services online with integrated time-slot management. The solution improved customer experience while optimizing workshop resource allocation.

Thesis Defense Management System (Classroom Distribution System)
Technologies: **Python, Django, REST API, Genetic Algorithm, React, Redux,Sqlite**
Project: Backend development for an intelligent scheduling system allocating classrooms for thesis defenses. A genetic algorithm optimized room distribution while considering teacher availability and constraints. Exposed via a REST API and integrated with a React frontend for efficiency.

HireSphere – Employment Platform
Technologies: **React.js, Node.js, Express.js, MongoDB**
Project: Design and development of a comprehensive recruitment platform enabling job posting management, candidate tracking, and the monitoring of the entire hiring process.

Brain Tumor Detection – Computer Vision Project
Technologies: **Python, TensorFlow, Keras, OpenCV, NumPy, Matplotlib, MobileNetV2**
Project: Development of a convolutional neural network (CNN) model for automatic brain tumor detection from MRI images. Implemented image preprocessing and data augmentation using `ImageDataGenerator`, and compared performance between a custom CNN and a transfer learning model (MobileNetV2) to improve classification accuracy. The model achieved high validation accuracy through optimized training and loss visualization.

Portfolio Website
Technologies: **React, Tailwind CSS**
Project: Development of a personal website to showcase professional projects, skills, and achievements in web development, designed with a clean and responsive user interface.

Education

Software Engineering Program – ISSAT Sousse September 2021 – Present
- Focused on full-stack development, AI integration, and project-based learning.

Baccalaureate in Technical Sciences (High Honors) – Mahmoud Mesaadi High School, Nabeul
- Achieved top grades with excellence in mathematics and physics. july 2021

Technical Skills

- **Programming Languages:** JavaScript, Python, Java, SQL
- **Frontend:** React, Bootstrap, Tailwind CSS
- **State Management:** Redux
- **Backend:** Django, Spring Boot, Express.js
- **Databases:** PostgreSQL, MySQL, MongoDB
- **Dev Tools:** Git, GitHub, Postman
- **Search Engine & Ai:** Elasticsearch , langchain , RAG pipelines

Certifications

Building LLM Applications with Prompt Engineering – NVIDIA (2025)
- Hands-on training on large language models, prompt design, and application development using generative AI.

Deep Learning Certificate – NVIDIA (2025)
- Training on neural networks, model optimization, and AI workflows.

Advanced Fullstack Web Development (MERN) – Orange Digital Center (2025)
- Comprehensive certification in fullstack development with MongoDB, Express.js, React, and Node.js.

Associative Experience

Vice President – NATEG ISSATSO (North American Tunisian Engineers Group)
- Organized events and hackathons; enhanced public speaking and leadership skills.

Member – ONET (National Organization for Children in Tunisia)
- Participated in community projects, fostering teamwork and adaptability.

Languages

- Arabic: Fluent
- French: Intermediate
- English: Intermediate
- Spanish: Beginner