

Rahma BRADAI

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SUMMARY

Software Engineer with hands-on experience gained through internships, academic and freelance projects. I build **full-stack web**, **cross-platform mobile** and **AI-powered** applications, with a constant focus on clean architecture, security and user experience.

EDUCATION

Computer Science Engineering	2023 - 2026
International Institute of Technology (IIT) – Software Engineering Diploma	
Big Data Analytics	2023
Higher Institute of Computer Science and Multimedia of Sfax (ISIMS) – Bachelor's Degree	

INTERNSHIPS

END OF STUDIES INTERNSHIP (KPIT)	02/2026 - 06/2026
- Designed and developed an AI-assisted VS Code extension (TypeScript, VS Code Extension API) automating the creation and validation of test configuration files in the automotive field, replacing slow and error-prone manual editing. - Built a visual editor and a typed data model covering the main embedded communication protocols — CAN, LIN, Ethernet, FlexRay, I/O, Serial with guided input and automatic configuration-file (YAML) generation. - Set up automatic detection of connected hardware (Python script) to identify test bench devices and pre-fill the configuration. - Implemented a two-layer validation engine: a structural schema check (types, required fields, reference consistency) followed by LLM-based analysis of business-logic inconsistencies, with errors reported directly in the editor at design time. - Engineered an intelligent assistant based on RAG: technical documentation split into chunks and indexed in Python, 768-dimension embeddings via nomic-embed-text, then similarity search to retrieve the relevant passages before generating an answer. - Ran the whole AI pipeline fully on-premises through Ollama (Qwen3 1.7B LLM, streaming answers, local REST API, automatic endpoint failover), so no confidential data ever leaves the company network. - Developed a REST backend (Node.js, Express, TypeORM, PostgreSQL, JWT) for saving, reusing and sharing configurations.	
SUMMER INTERNSHIP (DK Software)	08/2025 - 09/2025
- Developed a dynamic website with a Spring Boot (Java) backend exposing REST APIs and an Angular frontend, organised into independent modules for a modular and scalable architecture. - Applied the MVC design pattern with a clear separation between business logic, data access and presentation, making the codebase easier to maintain. - Set up JWT-based authentication (stateless sessions) and role-based access control (RBAC), with route protection on frontend and backend. - Integrated a company-specific chatbot to answer common visitor questions, enhance customer support and improve user interaction.	
END OF STUDIES INTERNSHIP (All Soft Multimedia)	02/2023 - 05/2023
- Developed a cross-platform mobile healthcare application with Flutter / Dart (Android and iOS from a single codebase), centred on medication tracking and patient profile management, with a responsive design. - Built a symptom checker chatbot powered by GPT-3.5 Turbo, letting users describe symptoms in natural language, paired with geolocation services to suggest the nearest healthcare providers. - Implemented RESTful APIs, structured state management and secure JWT authentication to deliver a seamless experience while protecting medical data.	

PROJECTS

Consultant Application (Freelance Project)	08/2025 - 09/2025
- Engineered a full-stack application combining an ASP.NET (C#) backend, a React.js frontend and Python AI services, automating activity report (CRA) management and real-time financial insights. - Integrated the Donut AI model for automatic receipt reading: key document fields extracted end-to-end (OCR) without an external engine or any manual data entry. - Implemented zero-shot classification to automatically sort expenses into new categories without retraining the model, enabling optimised financial tracking. Containerized the full solution with Docker (backend, frontend and AI services), ensuring reproducible environments, simplified deployment and scalable integration.	
Sign Language Recognition Application (End of Year Project)	03/2025 - 06/2025
- Developed a cross-platform Flutter application with real-time camera streaming and video processing (video_compress, image), and a responsive state-managed UI. Collected and annotated a custom dataset of over 7,000 labeled images using VOTT, then applied data augmentation techniques (rotation, zoom, brightness adjustment) to improve model generalisation. - Built a Python training and evaluation pipeline, comparing several architectures on both accuracy and on-device inference cost. - Experimented with advanced AI architectures ResNet-18 + LSTM for temporal sequence modeling, Vision Transformer (ViT) and mobile-optimised MobileNetV2 for multi-class classification across 257 sign classes.	

KEY SKILLS

DEVELOPMENT & PRACTICES	AI / MACHINE LEARNING	CERTIFICATIONS
Languages: Python, Java, C++, C#, PHP, SQL, JavaScript, TypeScript, Dart Frameworks: React, Angular, Flutter, Spring Boot, ASP.NET Core, Laravel, Node.js, Express.js, Docker Databases: PostgreSQL, MySQL, SQL Server, MongoDB Practices & tools: REST APIs, JWT, RBAC, MVC, Agile / Scrum, UI/UX, Git, Postman, Maven, VOTT	- RAG, locally-run LLMs (Ollama), GPT integration - Donut (OCR), zero-shot classification - TensorFlow / Keras, computer vision (OpenCV) - ResNet / LSTM, Vision Transformer (ViT), MobileNetV2	- Cisco CCNA 2024 - Python — CERTIPOINT 2024 - SCRUM Fundamentals 2024
		LANGUAGES
		Arabic (native) · English (fluent) · French (professional)