

ADROUCHE Ahmed Islam

Software Engineer — Full-Stack Developer

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Professional Summary

Software Engineer and Full-Stack Developer with hands-on experience building web applications, backend APIs, dashboards, and digital products. Experienced with React, Next.js, TypeScript, Node.js, Python, FastAPI, PostgreSQL, Prisma, and REST APIs. Strong foundation in software architecture, database design, authentication, responsive interfaces, and full-stack application development, with additional experience integrating AI-powered features.

Technical Skills

- **Languages:** TypeScript, JavaScript, Python, SQL.
- **Frontend:** React.js, Next.js, HTML5, CSS3, Tailwind CSS, Bootstrap, GSAP, Responsive Design.
- **Backend:** Node.js, Express.js, FastAPI, REST APIs, Authentication & Authorization, API Integration.
- **Databases:** PostgreSQL, Prisma ORM, SQLAlchemy, Supabase, Alembic, Relational Database Design.
- **Software Engineering:** OOP, Software Architecture, System Design, UML, Agile Development, Git, GitHub.
- **AI & Emerging Technologies:** AI Integration, Prompt Engineering, Recommendation Systems, Augmented Reality (AR).

Professional Experience

Freelance Full-Stack Developer — DotCode

Jul 2024 – Present

Independent Software & AI Agency — Remote

- Build full-stack web applications, dashboards, and digital products using React, Next.js, TypeScript, Node.js, Python, and PostgreSQL.
- Design REST APIs, authentication flows, relational database schemas, and backend services using FastAPI, Node.js, Prisma, SQLAlchemy, and Supabase.
- Develop responsive interfaces and integrate third-party APIs and cloud services across desktop, tablet, and mobile experiences.
- Develop DotCode, a software and AI agency platform, including a React frontend, FastAPI backend, PostgreSQL database, REST APIs, and content management workflows.

Lead Graphic Designer — GDG Constantine

Feb 2025 – Feb 2026

Google Developer Groups Constantine — Constantine, Algeria

- Led the design team and coordinated visual production for technical community events and initiatives.
- Collaborated with organizers and technical teams while mentoring team members in design workflows and visual communication.

Selected Projects

DecoX – AI & AR Smart Retail Platform

React, Next.js, React Native, Expo, TypeScript, Node.js, PostgreSQL, Prisma, Supabase

- Built a full-stack smart retail ecosystem spanning a responsive website, mobile application, admin dashboards, backend APIs, and database infrastructure.
- Implemented AI-powered product recommendations, AR-based product visualization, authentication, role-based access control, order management, delivery tracking, messaging, analytics, and reporting.

NetPilot AI – Local AI Assistant for Cisco Packet Tracer

React, TypeScript, Vite, Tailwind CSS, React Flow, Python, FastAPI, Ollama, Gemma 4, ChromaDB, SQLite

- Collaborated with a team during MLH Hacktoberfest Hack Day at BrainerX on an AI-powered networking assistant for generating and troubleshooting Cisco Packet Tracer topologies.
- Worked with a local LLM workflow designed to convert natural-language networking requirements into structured topology specifications, PTBuilder JavaScript scripts, and Cisco IOS configurations.
- Explored deterministic network validation and retrieval-augmented generation (RAG) using a CCNA knowledge base to support networking questions and troubleshooting.

DotCode Website – Software & AI Agency Platform

React, Vite, TypeScript, FastAPI, PostgreSQL, SQLAlchemy, Alembic

- Developed a responsive agency website with a modern frontend architecture and FastAPI backend for projects, services, testimonials, and contact management.

- Designed REST API endpoints, PostgreSQL database models, migrations, and structured backend architecture using SQLAlchemy and Alembic.

Portfolio OS – Portfolio Management Platform

Next.js, TypeScript, PostgreSQL, Prisma, Tailwind CSS, GSAP

- Developed a portfolio platform with an integrated administration dashboard for project, media, CV, analytics, and content management.

Education

Master's Degree in Data Science

2026 – Present

University Abdelhamid Mehri Constantine 2 — Constantine, Algeria

Bachelor's Degree in Software Engineering

2023 – 2026

University Abdelhamid Mehri Constantine 2 — Constantine, Algeria

Final Year Project Grade: 17.25 / 20 — Relevant coursework: Algorithms, Data Structures, Databases, Networks, Software Architecture

Certifications

Responsive Web Design – freeCodeCamp (2025) — JavaScript Fundamentals – GreatStack (2025) — DevFest Organizer – GDG Constantine (2025)

Languages

Arabic – Native — English – Professional Working Proficiency — French – Professional Working Proficiency