

Mohamed Farouk Hasnaoui

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Personal Profile

Backend-focused **Full-Stack Engineer** and **AWS Certified Solutions Architect – Associate** with an engineering background and 2+ years designing and deploying **scalable, secure, production-ready systems** in **Node.js, TypeScript and Go**. Experienced end to end, from database and API architecture through containerized deployment on **AWS CDK, Lambda and ECS Fargate** with automated CI/CD. Strong foundation in systems thinking, networking and operating systems, with hands-on exposure to AI-driven workflows. Looking for a backend or cloud-focused engineering role where I can grow within a team, contribute from day one, and take on increasing ownership as I learn the domain.

Skills

- **Backend:** Node.js, REST APIs, GraphQL, Clean Architecture, RBAC, JWT, Async processing, Error handling
- **Databases:** SQL, NoSQL, ERD modelling, Indexing, Transactions
- **Frontend:** Next.js, React, Tailwind CSS, Svelte, Browser extensions (WXT, Manifest V3)
- **Cloud & DevOps:** AWS CDK, Lambda, API Gateway, EventBridge, ECS Fargate, CodePipeline, CodeDeploy, CodeBuild, ECR, ALB, CloudWatch, X-Ray, WAF, Route 53, S3, IAM, Docker, CI/CD, Nginx, Linux
- **Languages & Testing:** TypeScript, Go, Python, C#, OOP, SOLID, Data Structures & Algorithms; Jest, Vitest, Go testing

Experience

Freelancer - Backend & Full-Stack Engineer

Oct 2024 - Present

- Designed and deployed end-to-end production systems, owning architecture from database schema through API layer to frontend delivery.
- Built scalable Node.js backends with authentication, role-based access control and structured error handling.
- Containerized applications with Docker and deployed to VPS and AWS environments using Nginx and CI/CD pipelines.
- Translated business requirements into architecture decisions balancing scalability, maintainability and delivery speed, shipping MVPs for early-stage projects on clean, modular codebases.

Engineering Research Project - University of the West of Scotland

Jul 2022 - Sep 2022

- Developed a machine learning model predicting aerodynamic forces around drone propellers, applying mathematical modeling and data analysis to improve prediction accuracy.

Personal Projects

ApplyMind — Job Application Tracker (Extension + Dashboard + API)

Jun – Aug 2026

ApplyMind.FaroukHasnaoui.tech

- Designed and shipped a **three-repository product** — a **Go** REST API on **AWS Lambda**, a **Next.js 15** dashboard and a **WXT/React** browser extension — capturing every job application as it is submitted, recording which CV version and cover letter went to which employer.

- Modelled the system **before writing code**: a full **ERD** (9 tables, enum-backed status lifecycle, append-only audit trail) plus **four sequence diagrams** covering the happy path, cross-domain redirect, CV version detection and the scheduled reminder sweep — then built to spec across **13 delivery phases**.
- Solved **cross-domain application tracking**: when LinkedIn redirects to an employer's own ATS (Greenhouse, Lever, Workday), a tab-scoped handoff record in `chrome.storage` resumes capture on an arbitrary third-party domain and completes the application there.
- Built **CV version detection** on in-browser **SHA-256** hashing through a four-outcome decision tree, and **duplicate-application detection** pairing exact company matching in SQL with **token-similarity scoring** on job titles in Go — catching the same posting listed across two job boards without ever blocking a save.
- Engineered for **unreliable networks and third-party failure**: an offline queue replays failed saves in order on reconnect, separating retryable (5xx) from permanent (4xx) rejections, while **GPT-4o-mini** match scoring runs **fail-soft** — a timeout returns a null score rather than losing the record.
- Deployed the whole backend — API Gateway, two Lambdas, EventBridge scheduler, ACM certificate, Route 53 — from one **AWS CDK** stack against **Neon PostgreSQL** (`sqlc`) and **S3**, covered by **260+ Go and TypeScript tests**, and shipped the extension with a local **demo mode** needing no account.

AWS CI/CD Pipeline with Live Observability Ops.FaroukHasnaoui.tech

May 2026

- Built a production-grade CI/CD pipeline using **AWS CDK**, **CodePipeline**, **CodeBuild** and **CodeDeploy** that builds, tests and deploys a containerized Node.js app on **ECS Fargate** on every GitHub push.
- Implemented **blue/green deployment** with canary traffic shifting (10% for 5 minutes) and automatic rollback triggered by a **CloudWatch alarm** on ALB 5xx exceeding 5%, plus **WAF** rate limiting and a capped desired count to contain runaway scaling costs.
- Created a **public CloudWatch dashboard** showing real-time ALB latency (p50/p95), ECS CPU, request count and alarm status, wired **X-Ray** tracing end to end, and set SNS alarms for 5xx rate, CPU and estimated charges over \$15/month.
- Resolved a non-trivial CDK issue: `PipelineType.V2` must be explicitly declared for `triggerOnPush` to wire the GitHub webhook — without it the pipeline silently falls back to manual triggering.

Open-Source Contributions

Magic UI – React Icon Cloud Fix

Dec 2024

- Identified and resolved a rendering issue affecting icon color logic in a 12k+ star repository, with TypeScript and Jest unit tests validating the behaviour. Merged into the official project.

PyBEMT – Engineering Feature Enhancement

Oct 2022

- Implemented a 3D stall delay model improving aerodynamic simulation accuracy and computational performance.

Education

Master Degree in Engineering

Sep 2018 – June 2020

Certifications & Continuous Learning

- **AWS Certified Solutions Architect – Associate** Credly.com/Badges/c4c18dfd-2f6a-4b55-87f2-cddd9d5c11ef
- Fundamentals of Operating Systems | Fundamentals of Network Engineering | Node.js & TypeScript Development