

Amr Muhammad Mahdi Alnus

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LinkedIn — GitHub

Education

Alexandria University

Oct 2021 – Aug 2026

B.Sc. in Electronics and Communication Engineering

- GPA: 3.35 / 4.0

Graduation Project - E Learning Platform

- Integrated Agora SDK for real-time video conferencing functionality
- Integrated Google Calendar API for automated scheduling and event management
- Refactored backend to follow clean architecture principles
- Developed unit tests to enhance code reliability

Projects

Workout Tracker

GitHub

- Built a scalable backend for workout tracking using Node.js, Express, TypeScript, Prisma, and PostgreSQL
- Implemented unit and integration tests with Jest and Supertest, achieving 81% code coverage
- Performed load testing with k6 (500 concurrent users, 0.05% error rate)
- Monitored and improved performance using Prometheus, Grafana, and PM2 clustering
- Technologies: Node.js, Express.js, TypeScript, Prisma, Jest, Grafana, Prometheus, k6

E-commerce API

GitHub

- Built a backend API with Stripe integration and MongoDB data models
- Technologies: Node.js, Express.js, MongoDB, Stripe, Jest

Online Compiler API

GitHub

- Built a secure code execution platform supporting Python and JavaScript in Docker sandboxes
- Implemented asynchronous job processing with RabbitMQ and real-time updates via WebSockets
- Designed modular architecture for adding new languages and scaling execution services
- Technologies: Node.js, Express.js, TypeScript, Docker, RabbitMQ, Redis, Socket.IO

URL Shortening Service

GitHub

- Developed a URL shortening service using NestJS with REST APIs, Redis caching, and click analytics
- Implemented unit and integration tests using Jest
- Technologies: NestJS, TypeScript, Prisma, PostgreSQL, Redis, Jest

Messaging Platform

Active

- Building a real-time messaging backend using Node.js and Socket.IO
- Implementing end-to-end encryption and message broadcasting
- Designing scalable architecture for real-time communication
- Technologies: Node.js, Socket.IO, TypeScript, WebSockets

Discord Bot

GitHub

- Developed automation features handling multiple Discord workflows
- Integrated MongoDB with Mongoose for persistent storage
- Designed event-driven architecture using Discord.js
- Technologies: Node.js, MongoDB, Discord.js

Image Processing Service	GitHub
<ul style="list-style-type: none"> • Implemented backend for user authentication and image processing • Image upload and transformation pipelines using Multer and Cloudinary • Technologies: Node.js, TypeScript, Express, Prisma, SQLite, Cloudinary, Redis, RabbitMQ, Jest 	
Movies App	GitHub
<ul style="list-style-type: none"> • Handled GitHub repository for branching and conflicts • Developed profile and search screens using Clean Architecture and Cubit state management • Integrated SQLite for user history • Technologies: Flutter, SQLite, Clean Architecture, Cubit 	
Events App	GitHub
<ul style="list-style-type: none"> • Implemented Firebase Authentication with email/password and Google sign-in • Used Provider for state management and theming • Integrated Google Maps for event location selection • Technologies: Flutter, Firebase Authentication, Provider, Google Maps 	
Contacts App	GitHub
<ul style="list-style-type: none"> • Built app to manage contacts with images and email metadata • Implemented local persistence using Android internal storage APIs • Technologies: Flutter 	
News App	GitHub
<ul style="list-style-type: none"> • Integrated third-party news APIs and mapped responses to clean UI components • Applied Clean Architecture principles and Cubit for state management • Technologies: Flutter, Clean Architecture, Cubit 	

Training & Certifications

Holberton School (ALX)	2023 – 2024
Software Engineering — 12-Month Program	
<ul style="list-style-type: none"> • Completed 1,000+ hours of backend-focused training in Bash, C, Python, JavaScript, and TypeScript • Designed and implemented RESTful APIs using Flask and SQLAlchemy • Worked with MySQL, MongoDB, and Redis 	
Route Academy	Jul 2025 – Dec 2025
Flutter Cross-Platform Application Development Diploma	
<ul style="list-style-type: none"> • Developed 4+ cross-platform mobile applications using Flutter and Dart • Applied SOLID principles and Clean Architecture • Integrated RESTful APIs and reusable UI components • Used Firebase Authentication and Firestore 	
Information Technology Institute (ITI)	Jul 2025 – Aug 2025
Linux System Administration	

Extracurricular Activities

IEEE SCSS Alexandria Branch — Head of Software Engineering	Feb 2025 – Aug 2025
<ul style="list-style-type: none"> • Interviewed and evaluated 30+ candidates for technical roles • Designed training plans and mentored software engineering members 	
Alex Eagles — Software Engineer	Sep 2024 – Mar 2025

- Developed autonomous drone control software using Python and DroneKit
- Improved command-response latency between drone and ground station

Femto Science — English Instructor

Oct 2022 – Jul 2023

- Delivered online lectures and evaluated student assignments

Skills

Languages: Arabic (Native), English (Advanced)

Programming Languages: C, C++, Python, Java, JavaScript, TypeScript, Dart, SQL, Bash

Backend & Web: REST APIs, Node.js, Express.js, Prisma, JWT, Jest, Supertest, RBAC, SOLID, Design Patterns

Frontend & Mobile: Flutter, Clean Architecture, Cubit, Provider, Firebase

Databases: PostgreSQL, MySQL, MongoDB, Redis, SQLite

DevOps & Tools: Git, Linux, Docker, Postman, Cloudinary