# MOHAMED ALNOOH

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## About Me

A Full-Stack Developer and Data Science enthusiast passionate about solving complex problems through data-driven insights and innovative software solutions.

## Skills

**Programming Languages:** Go, Python, Rust, JavaScript, TypeScript, SQL, HTML, CSS.

**Frameworks & Libraries:** ReactJS, NextJs, Tailwind, Django, FastAPI, TensorFlow, Scikit-learn, Pandas, NumPy.

**Tools & Platforms:** AWS, Docker, Git, GraphQL, Postman, Supabase, Firebase, Posthog, LangChain, LangGraph, Selenium, Auth0, Power BI, Microsoft Excel, Jira, Bitbucket.

**Soft Skills:** Problem-solving, teamwork, communication, adaptability, leadership, and analytical thinking.

## Experience

**Array Innovation**                                                                                 Jun 2025 – Present
*Software Engineer Intern*

- **Proposed and implemented a universal data ingestion pipeline** capable of processing documents, scraping websites, and dynamically generating knowledge bases to power both **AWS OpenSearch** and **Bedrock RAG chatbots**, enabling plug-and-play intelligence across client use cases.
- **Architected and deployed** a **production-ready GenAI infrastructure** using **AWS CDK (Python)**, provisioning services such as **ECS**, **Lambda**, **DynamoDB**, **Cognito**, **S3**, **Route 53**, **ECR**, and **Load Balancer** with fully **automated CI/CD pipelines**.
- Developed the frontend in **NextJs** and **automated QA** with **Selenium**; integrated **LangChain**, **LangGraph**, **Docling**, **SpaCy**, and **FastAPI** to enable document understanding, **chunking**, and **RAG** in the chatbot workflow.

**Servable**                                                                                         Dec 2024 – Jun 2025
*Full-Stack Developer*

- Rebuilt Servable's marketing website using **NextJs**, **ShadCN**, **Tailwind CSS**, and **Framer Motion**, delivering a responsive, production-ready frontend aligned with brand goals.
- Engineered the core full-stack AI platform using **NextJs**, **FastAPI**, and **TypeScript**—supporting model selection, synthetic data generation, fine-tuning, and one-click **LLM** deployment; automated fundraising pitch demos using **Selenium**.
- Collaborated on backend development using **AWS** and **Supabase**; implemented advanced **LLM** workflows with **Langchain**, **LangGraph**, **OpenAI**, and **HuggingFace**, and integrated **PostHog** for analytics and **LemonSqueezy** for subscription billing.

## Education

**Reboot Coding Institute**                                                                          May 2024 - Present
*Full-Stack Development Diploma*

- Gained expertise in both **front-end** technologies (**JavaScript, CSS, HTML**) and **back-end** languages (**Rust, PHP, Python, Go**), along with frameworks like **Django** and **Next.js**, while currently participating in **over 55 team-based projects**, developing practical skills in client software and database programming (**SQL**).

**BIBF – University of London**                                                                      Sep 2023 - Present
*BSc Data Science and Business Analytics*                                                          *Grade: Distinction*

- Served as a **teaching assistant** for **Math** & **Statistics** courses.
- Member of **Quantitative Trading Society** utilizing various **quantitative techniques** for trading in different markets using **machine learning**, **automation**, and **Python**.

**Ahmed Al-Omran Secondary Boy's School**                                                            Sep 2020 - Jun 2023
*Science – Math & Physics*                                                                          *CGPA: 99%*

- Gulf **Math** Olympiad Representative for Bahrain.
- Candidate of the **Crown Prince International Scholarship Program**.

## Certificates & Awards

- **CMI Level 3 Diploma in Management:** Acquired advanced **management skills** in **communication**, **team leadership**, and **performance management**, enabling successful team dynamics and enhanced organizational performance.
- **Tutor at Peer Learning Academy:** Taught mathematics to over 2,000 students in Bahrain government schools.
- **Best Use of Technology Award:** Recognized at the **NASA Hackathon** for **innovative application of technology** in the **Skilify** project.

## Projects

**Bomberman Game** **Jan 2025 – Jan-2025**

- Developed a **real-time multiplayer game** inspired by Bomberman using a **custom JavaScript framework**, along with **Node.js** and **Socket.IO** for dynamic grid-based matches.
- Implemented **voice chat functionality** with **WebRTC** and **MediaRecorder API**, enhancing player communication during gameplay.

**Netfix** **Jan 2025 – Jan-2025**

- Developed a **multi-service home maintenance platform** using **Django**, enabling customers to request **over 30 different services** and companies to create and manage services within their field of expertise.

**Social Network** **Dec 2024 – Jan-2025**

- Developed a feature-rich social networking platform using **Next.js** and **Go**. Implemented key functionalities including **user authentication** with **Auth0**, real-time messaging and notifications via **WebSockets**, and **RESTful APIs** for other interactions. Utilized **SQLite** for database management and **Docker** for containerization.

**DSBA Resource Hub** **Nov 2024 – Present**

- Developed a **React-based** learning resource hub platform that aggregates resources from multiple institutional platforms into one unified interface, integrating **PostHog** for analytics, and serving **20+ daily users** with enhanced accessibility, usability, and seamless navigation.

**Qraphql** **Nov 2024 – Nov 2024**

- Built a Reboot Student Dashboard through **React** and **GraphQL** integration, enabling real-time data visualization and user engagement by querying a **GraphQL API** for user-specific data (e.g., XP, grades, audits, and skills) and visualizing it using **ApexCharts**.

**Satellite Image Classifier** **Oct 2024 – Oct 2024**

- Used a **convolutional neural network (CNN)** to achieve **multi-label image classification** with **84% accuracy** on a custom dataset of over **5,000** images through **Python**, **TensorFlow**, and **OpenCV**.

**Air Quality Prediction** **Oct 2024 – Oct 2024**

- Used **machine learning** techniques to achieve a prediction **accuracy of 97%** for **relative humidity (RH)** in air quality data through **feature engineering**, **model selection**, and **hyperparameter optimization** with **Python**, **pandas**, and **scikit-learn.**

**Skylify** **Oct 2024 – Oct 2024**

- Used **React** and **Three.js** to achieve an **interactive 3D planetary visualization system** with over **200 high-resolution models.**
- Implemented **backend data retrieval** with **Python (FastAPI)** and created downloadable reports using **jsPDF** and **html2canvas**.
- Integrated **Google Generative AI** for **automated content generation**.

**Real Time forum** **Sep 2024 – Oct 2024**

- Developed an **advanced forum platform** using **Golang**, **JavaScript**, and **SQLite**, featuring **real-time interactions**, **real-time private messaging** using **WebSockets**, and dynamic post-comment systems.

**Dragon Ball Game** **Aug 2024 – Sep 2024**

- Developed a **responsive game loop architecture** in **JavaScript** incorporating delta time calculations for frame-independent movement and animations, ensuring consistent gameplay.
- Implemented **real-time collision detection** using vector mathematics and the **Separating Axis Theorem (SAT)** algorithm to create dynamic combat interactions between player and enemy characters.
- Utilized **time-based animation and DOM manipulation** to manage game state, including health bars, power-ups, and timed events, enhancing gameplay complexity and user engagement.