# Abdelrahman Mohammed

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## EDUCATION

# German University In Cairo

Bachelor of Engineering in Computer Science and Engineering

#### EXPERIENCE

# Learning Management System

Project Manager & Backend Software Engineer

- Architected and implemented a scalable backend using Express.js and PostgreSQL, handling 1,000+ daily active users with 99.9% uptime
- Led technical planning and database design, implementing role-based access control for students, teachers, and administrators
- Managed development lifecycle using Agile methodologies, conducting stakeholder interviews and iterating based on user feedback

## Astronomic

Junior Software Engineer

Remote May 2024 - January 2025

Cairo, Egypt

- Increased data quality by reducing invalid records to below 1% by implementing similarity algorithms, enabling effective de-duplication and error correction in large datasets.
- Designed and implemented scalable Node.js Typescript pipelines, processing 10M+ investor and company records, decreasing pipeline runtime by 90% through advanced MongoDB aggregations.

## German University in Cairo

Junior Teaching Assistant

- Guided 40+ students during lab sessions, helping them understand and implement **OOP** concepts in **Java**.
- Assisted students in solving programming problems in **Prolog** and **Haskell**.

#### Trax Group

Software Engineering Intern

- July 2023 September 2023
- Developed features for a motorcycle shop management system using **Dynamics 365**, including custom forms and data models
- Implemented  $\mathbf{X}$ ++ business logic for inventory and service workflow automation

#### TECHNICAL SKILLS

Programming Languages:	Python, Typescript, Javascript, Java, C
Technologies:	Express.js, Node.js, Django, Flask, Git, React.js, AWS, Docker
Databases:	PostgreSQL, MongoDB, MySQL, PrismaORM, Mongoose

#### Projects

Mern Stack Tourism Website github.com/Advanced-computer-lab-2024/Are-we-there-yet Led development of a full-stack tourism platform using **MERN** stack, implementing features like real-time booking and purchasing, Stripe integration, and user authentication. Achieved 100% score and performance bonus while managing a team of 10 developers using Agile methodologies.

github.com/Sherlemious-GUC-Projects/DB2-Project1 **Database Engine** Built a custom database engine in Java featuring B+ Tree indexing, efficient data pagination, and ACID-compliant transactions. Implemented query optimisation, achieving  $O(\log n)$  search complexity.

IGCSE CS PseudoCode Web Compiler https://www.pseudocode-compiler.sherlemious.com Developed a web compiler that helps IGCSE CS students validate and execute their pseudocode solutions. React.js, Typescript, Django, Python

github.com/Sherlemious-GUC-Projects/Game-Milestone-3 The Last of Us Game Implemented a 2D game using **Java**, utilising **OOP** concepts.

LEADERSHIP AND AWARDS

## **ECPC** Qualifications Participant

## The Intelligent Question (TIQ) - President

September 2023 - July 2024 Led a debate club, organized events, and mentored members to improve critical thinking and public speaking skills.

February 2023 - May 2024

Cairo, Egypt

Freelance Client Project

October 2021 - (July 2026)

July 2024 - May 2025

Cairo, Egypt

2022, 2023, 2024