Abdelrhman Mohamed

(BSc Software Engineering Student)

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Professional Profile

A driven third-year Software Engineering student with proven proficiency in **Python, JavaScript, Node.js, and PostgreSQL**. Committed to developing innovative solutions, evidenced by building a full-stack house-sharing application and engineering a route optimization algorithm. Seeking a challenging placement/internship to leverage strong collaborative skills and practical knowledge in a professional development environment.

Technical Skills

- **Languages:** Python, JavaScript, HTML, CSS, SQL
- **Backend & Database:** Node.js, **PostgreSQL** (Relational Database Design), SQL Query Generation
- **Tools & Frameworks:** Git, GitHub, VS Code, Tkinter, Matplotlib, Cisco Packet Tracer
- **Core Concepts:** Object-Oriented Programming (OOP), Data Structures & Algorithms, Network Infrastructure

Select Projects

House Sharing Web Application (2025)

- Collaboratively developed a **full-stack web application** to help housemates manage shared expenses and chores.
- Implemented **user authentication** and designed a **PostgreSQL database schema** to support a task rota system and real-time expense tracking.

Self-Driving Cars Route Optimization Algorithm (2023)

- Engineered a **Python algorithm** for self-driving cars, implementing and optimizing **Dijkstra's algorithm** to enhance navigation efficiency.

- Demonstrates a strong understanding of graph theory, complexity analysis, and performance-critical development.

Database Management System (Coursework 2023)

- Designed and implemented a normalized **relational database** for a tutoring organization.
- Authored and executed complex **PostgreSQL queries** for efficient data insertion, management, and retrieval, ensuring data integrity.

Smart Home GUI Prototype (Python) (2023)

- Built a desktop GUI prototype using **Python (Tkinter)** for controlling smart devices.
- Applied **Object-Oriented Programming (OOP)** principles to create modular and scalable device control and user interface logic.

Patchwork maker coursework (Python) (2023)
- Developed a **Python** program to create customizable geometric patchwork grids, with interactive design and colour selection based on user input.

FitZone Website (2024)
- FitZone is a dynamic and interactive fitness website designed to provide users with a comprehensive platform for workouts, nutrition guidance.

Marathon Race Timer Coursework (2025)
- This system is a specialized Race Timer for marathons, offering a precise stopwatch and functions for recording lap split times. It features Local Storage for offline data saving and uses a Session ID to group and organize all race results for eventual CSV export.

Education

University of Portsmouth | BSc Software Engineering (2023 - Expected 2026)

- **Current Year:** Final Year (Year 3).
- **Key Modules:** Data Structures & Algorithms, Web Application Development, Database Systems, Computer Networks.
- **Overall Average:** 65 (Equivalent to 2:1/Upper Second Class Honours)

International College of Portsmouth | Foundation in Computing (01/2023 - 07/2023)

- **Grade:** 83

Soft Skills & Teamwork

Excellent **communication** and **teamwork** skills refined through multiple collaborative group projects, including designing physical network infrastructure (Cisco Packet Tracer) and developing a full-stack web application. Proven **adaptability** in learning new technologies quickly to meet project demands.