

# Mohamed Salah

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## PROFESSIONAL SUMMARY

MSc Computer Science candidate with a solid foundation in algorithms, data structures, and clean software design. Experienced in designing and developing software systems through university projects, including web application design and scalable Python applications, successfully delivering functional prototypes through structured planning and iterative testing. Passionate about developing efficient, maintainable systems through disciplined coding and collaboration. Seeking a graduate software engineering role to contribute to high-performance, large-scale networking software while continuing to develop professional expertise.

## CORE SKILLS

**Programming:** Python, Java, C#. Experienced with data structures, algorithms, debugging and performance optimisation.

**Software Engineering:** Object-oriented design, data structures & algorithms, unit testing, version control (Git/GitHub), Agile teamwork, requirements to delivery.

**Networking & Systems:** Exposure to network protocols, concurrency, multithreading and distributed systems concepts.

**Tools:** Visual Studio, Unity, GitHub, Power BI, SQL, Excel.

**General:** Stakeholder communication, technical writing, planning & prioritisation.

## PROJECTS

### Experiment W - Two-player cooperative puzzle-adventure (Unity/C#) (2024-2025)

- Designed and implemented modular, event-driven architecture in Unity using C#, following initial project planning and gameplay requirement definition informed by market research into cooperative puzzle games.
- Built AI agent logic through finite-state machines and integrated multi-threaded path-finding systems to support responsive enemy behaviour.
- Applied version control, debugging, profiling and iterative testing throughout development to ensure performance and maintainability.
- Conducted verification and validation through structured playtesting, confirming that gameplay mechanics and AI behaviour functioned as intended.
- Delivered an end-to-end individual project, from concept and design through implementation, testing and documentation.

### BookMeIn2 Event Management System Design (2024)

- Contributed to the design and planning of a comprehensive event management system supporting delegates, exhibitors, administrators, moderators and speakers.
- Worked within an Agile development process, collaborating with team members and using Azure DevOps to manage tasks, retrospectives and project progress.
- Designed mobile-first interface prototypes for the exhibitor module, producing wireframes, mock-ups and user flow diagrams.
- Created UML and ER diagrams to model system architecture, data relationships and application workflows.
- Participated in requirements analysis, documentation and design validation, ensuring proposed solutions aligned with functional and non-functional system requirements.

## EDUCATION

**Keele University** - MSc Computer Science with Artificial Intelligence (2023-2025), 2:1

**University of Nottingham** - BSc (Hons) Biochemistry (2019-2023)

**University of Birmingham School** - A Levels (2017-2019)

Chemistry (A), Mathematics (B), Biology (B)

**Bournville School** - 10 GCSEs at A\*-C

(2012–2017)

## CERTIFICATIONS AND PROFESSIONAL DEVELOPMENT

**Google IT Automation with Python** — Coursera (In Progress)

Planned Completion (April 2026)

**Scientific Computing with Python** — FreeCodeCamp (In Progress)

Planned Completion (March 2026)

## EXPERIENCE

### Technical

#### **Web Application Design – Friendzone Social Media Platform (2024)**

- Designed a responsive social media platform prototype inspired by Facebook, focusing on system functionality rather than visual design.
- Produced system design artefacts including Entity Relationship Diagrams (ERD), database schema, and site architecture maps.
- Conducted security analysis to identify and mitigate risks such as SQL injection and cross-site scripting (XSS).
- Developed responsive interface designs for desktop and mobile views, specifying core functionality including secure login, user profiles, post creation and commenting systems.

#### **Library Notification System – Python Application (2024)**

- Designed and implemented a library notification system in Python to manage book loans, returns, reservations and membership cards.
- Applied object-oriented programming and design patterns to create a scalable architecture that allows new notification types to be added easily.
- Implemented functionality for borrowing and returning books, issuing membership cards with unique IDs, and generating notifications for late returns, fines and reserved book availability.
- Processed and stored system data in JSON format with CSV-to-JSON conversion, delivering a flexible prototype for managing library notifications.

### Non-Technical

#### **Royal Mail – Parcel Driver (2025-2026 | Birmingham, UK)**

- Delivered high-volume parcels across time-critical routes while meeting strict delivery SLAs.
- Used route-planning and handheld tracking systems to ensure accurate, auditable deliveries while managing workload independently and adapting to changing routes and priorities.
- Maintained compliance with safety, security and data-handling procedures.

#### **WHS Plastics - Quality Inspector (2024 | Birmingham, UK)**

- Inspected automotive parts against specifications, documented non-conformities and supported corrective actions.
- Worked to targets while maintaining safety and quality standards.

#### **Halfords - Customer Service Advisor (2023-2024 | Redditch, UK)**

- Managed bookings and service tickets using digital systems, improving turnaround accuracy and on-time completion.
- Collaborated across teams to resolve escalations, captured structured notes for repeatability and audit.
- Produced simple data insights to improve throughput and reduce repeat queries.

## ADDITIONAL

**Languages:** English (fluent), Arabic (fluent), learning Spanish and Norwegian.

**Interests:** Hiking, basketball, football, volleyball, gaming, travel.

**References:** Available on request.