# Matthew Bowler

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Portfolio: bowlerm.github.io/Portfolio/

## Personal Profile

I'm a recent Computer Science graduate from the University of Leeds, with hands-on experience across multiple areas of software engineering through academic work and personal projects. I'm eager to apply my skills and continue growing in a graduate software engineering role.

## Education

**University of Leeds, September 2022 – July 2025**

BSc, Computer Science (BCS accredited) – First Class Honours

| **Relevant Modules:** | **Results:** |
|---|---|
| Web Services and Web Data | 86/100 |
| Secure Computing | 70/100 |
| Procedural Programming (C) | 96/100 |
| Object Oriented Programming (Java) | 99/100 |
| Software Engineering Principles | 76/100 |
| Web Application Development | 81/100 |

**Xaverian College, Manchester, 2020 – 2022**

A levels: Computer Science – A*, Maths – A, Further Maths – A

**Audenshaw High School, Manchester, 2014 – 2020**

GCSEs: Achieved 1 Grade 9, 5 Grade 8's including Maths and Computer Science, 1 Grade 7 and 2 Grade 6's

## Technical Skills

Programming Languages: Python (Proficient), HTML, CSS, C# (Basic), C/C++ (Basic)

Web Technologies: REST APIs, Flask, Fast API

Databases: SQL (MySQL, SQLite), NoSQL (MongoDB)

Version Control: Git, GitHub

Other Tools: Linux/Unix environments, Microsoft Office/Teams, Azure, Windows

## Academic and Personal Projects

**Backend Developer for Webscrapi (Collaborative)**

- Co-developed a SaaS web scraping platform with a friend, focused on creating an easy-to-use generalised web scraper.
- Implemented the backend infrastructure and REST API using Python framework: FastAPI.
- Integrated MySQL database to manage and store user information, including account details and user generated content.
- Designed an authentication system using JWT for secure API access.
- Collaborated with front-end developer to ensure smooth integration.

### Discord Study Bot (Personal)

Developing a Discord bot to help students study/revise within an environment they may be familiar with.

- Built in JavaScript using Node.js and the discord.js module.
- Implemented features such as Flashcard creation and visualisation and a remind me/notification feature.
- Integrated MongoDB for the storage of user flashcards.
- Designed a user-friendly command interface for easy interaction within a discord server.

### Year 2, Group Software Engineering Project (Academic)

Within a group of 5, developed a web application, following agile principles, that allows users to view journeys they have taken on a map by uploading GPS data to the site.

- Utilized the Python framework Flask to implement the backend architecture, delivering dynamic frontend pages through Jinja templates.
- Used HTML and CSS to create a user-friendly login and register interface.
- Handled the login and register requests in the backend using an SQLite database.
- Integrated and handled Stripe payment processing in the frontend and backend.
- Worked collaboratively with my colleagues setting regular meetings and using kanban boards to monitor progress along with GitHub to collaboratively build the project and store documentation.
- Used Belbin team roles to identify possible conflicts and catch them early.

### Leeds Hack 2025 (Collaborative)

Participated in a 24-hour hackathon at the University of Leeds, collaborating in a team of 4 and working closely with the fintech sponsor to develop a prototype onboarding process for a decentralized autonomous organization insurance service.

- Efficiently designed the project scope to ensure delivery of the product within the limited time available.
- Implemented backend architecture using Flask (Python) and an SQLite database.
- Designed and implemented an effective database structure to handle the complex nature of the application such as policy data, claims processing and DAO governance.
- Developed API endpoints to provide required functionality and was responsible for linking the frontend and backend together.

### Final Year Dissertation: Computerised Quoridor with AI (Academic)

Developed a digital version of the board game *Quoridor*, incorporating gameplay AI.

- Designed and implemented the full game logic in Python, including a visual board UI.
- Researched and implemented a game-playing AI using the Minimax algorithm, with evaluation heuristics to simulate strategic decision-making.
- Explored trade-offs between depth of search and performance, gaining insights into AI design patterns and algorithmic optimisation.
- Produced a detailed report evaluating performance, user testing, and future improvements.

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## Other work

### Bar staff, O2 Apollo, Manchester, July 2022 – September 2022

- Worked in a fast-paced environment, managing customer orders and handling customer payment.
- Developed strong teamwork and communication skills by collaborating with colleagues to manage busy shifts.

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## Interests and Hobbies

- Practicing music production and playing guitar.
- Running and fitness training.