

HARRY MCDONAGH

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Computer Science Student | Passion for Software Development, Data Science, and User-Centric Design

Ambitious and technically astute Computer Science graduate with a 2:1 degree and a top-grade final-year project (78%), developing analytical knowledge and technical skills needed to create software solutions to real-world problems via the study of software engineering, data science, and systems analysis. Improved awareness of the full software development lifecycle (SDLC), from planning and design to testing and deployment, while learning to apply statistical analysis and machine learning techniques to distil insights from large datasets. Receptive to UX/UI design principles to optimise accessibility and engagement. Dynamic, relishes challenges, and is quick to learn and apply new processes.

EDUCATION AND QUALIFICATIONS

UNIVERSITY OF EAST ANGLIA, NORWICH | BSc Computer Science

September 2022 - July 2025

- Enhance knowledge relating to concepts of computing, including mathematics, logic, and engineering, while analysing its impact on individuals, organisations and society.
- Build skills needed to analyse computer architecture suitability for data processing.
- Learn to design user-centred systems and build intelligent systems that learn from data.
- Improve awareness programming and algorithms and software design.
- Modules include: Data Structures and Algorithms, Software Engineering, Architectures and Operating Systems, Data Science, System Development, Database Systems and Object-Oriented Programming.

Projects (Full Portfolio Available at harrymcdonagh.com)

- Sylvie:** Designed and developed Sylvie, a web-based AI chatbot for supporting UEA students. Implemented a Retrieval-Augmented Generation (RAG) architecture with semantic search to answer queries about university services, student well-being, and Norwich life. Built using FastAPI, React, and OpenAI's API, with features like user chat history, token-efficient memory handling, and ethical prompt engineering
- Voyage:** Project managed the development of a web application enabling real-time cryptocurrency analysis, integrating live price tracking and historical data analysis. Developed a backend with REST API endpoints for core application features, introduced a secure system for portfolio management, and used CI/CD workflows and Git to maintain production-ready deployments.

PROFESSIONAL EXPERIENCE

HORIZONE LTD | IT Technician

February 2022 - September 2022

Delivered client-focused IT solutions and support within this telecommunications service provider; optimised operations and customer service delivery while demonstrating a positive response to pressure in a high-tech and dynamic environment.

Key achievements

- Improved efficiency and customer experiences by developing a VBA-driven system to automate invoice processes.
- Harnessed interpersonal communication skills to articulate complex technical details in accessible formats to diverse audiences.
- Identified and implemented improvements to internal efficiency and the customer experience.
- Managed Microsoft accounts, ensuring policy compliance while maximising user access.
- Enhanced office connectivity and system performance by implementing and troubleshooting network infrastructures.

EXTRA-CURRICULAR HIGHLIGHTS

J.P. MORGAN | Software Engineering Virtual Experience (Forage)

February 2024

- Established and maintained a local development environment, rectified broken files to optimise web application performance, and called upon JPMorgan Chase's Perspective library to create real-time, visually appealing data visualisations for trader monitoring.

IEUK 2024 | Technology Intern

June 2024

- Improved skills in technology, coding, and innovation via participating in employer-led workshops with leading companies, including BT Group, CrowdStrike, and Lloyds Banking Group.

TECHNICAL SKILLS

Programming Languages: Java | Python | JavaScript | TypeScript | VBA | C#

Web Development: HTML | CSS | React | Next.js | Node.js | Express | Tailwind | Vue.js (Learning) | Blazor (Learning)

Software Development: MVC architecture | UX/UI Design | CI/CD workflows

Database Management: SQL | Postgres

Version Control: Git

Networking and IT Support: Microsoft Account Administration | Network Infrastructure Implementation and Troubleshooting

Tools and Libraries: Auth.js (Authentication and Session Management) | Perspective (JPMorgan Chase's open-source library)