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 student gaining analytical knowledge and technical skills needed to develop software solutions to real-world problems via the study of software engineering, data science, and systems analysis. Improved awareness encompassing the full software development lifecycle (SDLC), from planning and design to testing and deployment while learning how to apply statistical analysis and machine learning techniques to distil insights from large datasets. Receptive to new and emerging trends in User Experience (UX) / User Interface (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**   09.2022-07.2025

- 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 development of a web application enabling real-time cryptocurrency analysis, integrating live price tracking and historical data analysis. Developed backend to efficiently manage API interactions while introducing a secure system for user registration and portfolio management.

PROFESSIONAL EXPERIENCE

HORIZONE LTD | **IT Technician**   02.2022-09.2022

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)**   02.2024

- 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**   06.2024

- 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

Networking and IT Support: Microsoft Account Administration | Network Infrastructure Implementation and Troubleshooting
Tools and Libraries: Express-Session (Session Management) | Perspective (JPMorgan Chase's open-source library)
Web Development: HTML | CSS | React | Next.js | Node.js | Express | Tailwind | shadcn/ui
Software Development: MVC architecture | UX/UI Design
Programming Languages: Java | Python | JavaScript | C | C++ | VBA
Database Management: SQL
Version Control: Git