

Harry Newman

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EDUCATION

Aston University

Bachelor of Science (BSc Hons) in Computer Science

Birmingham, UK

Sep. 2025 – Present

Walsall College

Level 4 Higher National Certificate (HNC) in Computing – Merit

Walsall, UK

Sep. 2024 – Jun. 2025

CERTIFICATIONS

CS50x: Introduction to Computer Science

Jun. 2025

Harvard University (via edX)

Online

- Acquired fundamental programming concepts including algorithms, data structures, and web development using Python, C, and JavaScript.
- Built upon the CS50P project and transformed a BMI calculator written in C into a Flask-based BMI Tracker as a final project, implementing user input handling, calculations, and a responsive web interface.

CS50P: Introduction to Programming with Python

May. 2025

Harvard University (via edX)

Online

- Mastered core Python programming concepts including data types, control flow, functions, and object-oriented programming.
- Developed a command-line BMI calculator as the final project, which stored user data and results in a JSON file for persistence.

PROJECTS

soniq | C++, raylib, CMake, Git

Jul. 2025

- Created a real-time audio visualiser that processes WAV files using a custom FFT (Fast Fourier Transform).
- Reduced CPU and RAM usage by approximately 30% and 50% respectively by implementing an optimised Cooley-Tukey FFT algorithm over the naïve DFT (Discrete Fourier Transform).
- Visualised frequency magnitude in real-time using raylib.
- Ensured memory safety through Valgrind testing and designed a modular DSP (Digital Signal Processing) pipeline.

TECHNICAL SKILLS

Languages: C/C++, Python, SQL, JavaScript, HTML/CSS

Frameworks: Flask

Developer Tools: Git, GitHub, SQLite, Valgrind, CMake

Libraries: raylib