Harvey Fretwell

Software Engineer

Email **hgfretwell@gmail.com**
Phone **+44 7377 693636**
GitHub | GitLab **harveyf2801**
LinkedIn **linkedin.com/in/harveyfretwell/**
Website **harveyf2801.github.io/portfolio/**

SUMMARY

As a soon-to-be sound engineering graduate with experience in the audio software industry, I bring strong problem-solving skills, a collaborative mindset, and a diverse technical skill set. Organised, detail-oriented, and self-motivated, I am eager to apply and expand my expertise in a dynamic software engineering role, contributing to impactful projects and advancing my professional growth.

WORK EXPERIENCE

Demonstrator / Mar 2019 - May 2020

Birmingham City University - Birmingham, UK

Bringing hands-on expertise, specifically teaching audio software development including C++ and the JUCE framework to university students.

C++   Git   JUCE   Computer Science

QA Engineer / Aug 2022 - Aug 2023

Audient - Hampshire, UK

Developed and implemented a comprehensive CI/CD solution using Python, automating - unit, integration, and end-to-end tests for all products. I also contributed to various roles, such as software and firmware development, supporting repairs, and streamlining bug reporting processes for enhanced efficiency.

Python   C++   JUCE   XMOS   GitFlow   DSP

SKILLS

Languages: C++, Python, MATLAB, JS, HTML, CSS,
Tools: PyTorch, Tensorflow, PyTest, JUCE, Jekyll
Other: CI/CD, Gitflow, GUI Design, Data Science and ML, DSP, Networking

EDUCATION

BSc Sound Engineering / 1:1 / Sept 2020 - July 2024

Birmingham City University - Birmingham, UK
Thesis: Comparative analysis of auto phase alignment techniques: traditional DSP methods VS. neural network approaches.

A-Levels / AAB / Sept 2018 - July 2020

King Edward VI College - Nuneaton, UK
Computer Science: A | Music Technology: A | Music: B

OTHER PROJECTS

- Created instrument classification models comparing SVM, KNN, and Random Subspace Ensemble, utilising Python, PyTorch, and MATLAB.
- Implemented a Deep Neural Network in PyTorch for phase aligning two audio sources.
- Developed audio effects like compressors and EQs, as well as standalone applications using C++ and JUCE.
- Designed a 2-story multi-purpose recording studio with full acoustic treatment. Additionally, crafted applications to calculate reverberance and assess noise pollution.
- Engineered polyphonic synthesisers with Arduino and DaisySP, using C++.
- Created a cross-platform automation library in Python using accessibility tags to perform end-to-end testing of applications.
- Built a custom portfolio website using HTML, CSS, JavaScript, and Jekyll.

AWARDS

- Grade 6 on both classical guitar and keyboard, and performed as lead trombone in Enderby Brass Band at various concerts and contests around Europe.
- Dante Level 1, 2 and 3.
- Duke of Edinburgh bronze and silver award.
- National Citizen Service award.

ACTIVITIES / INTERESTS

- Founded and managed the Live Sound Society at university, training new members and organised events including festivals, karaoke nights, and weekly concerts.
- Volunteered as leader at local scout group, planning and running diverse activities like first aid, survival skills, nights out, and camping trips, fostering leadership and communication skills.
- Volunteered as an instructor in the local brass band's trombone section; aiding other players in junior band, offering guidance to advance them to youth band.

References available on request