CONNOR BROOKS

github.com/connor-brooks
mail@connor-brooks.com
connor-brooks.com
+44 7788 986502

TECHNICAL EXPERTISE

Languages: C, C++, Python, Shell, OpenGL, JavaScript, HTML, SQL

Software: UNIX/Linux, Bash, Git, GDB, LaTeX, Vim, Keras, Jupyter

Electronics: Arduino, STM32, Raspberry Pi

EDUCATION

Goldsmiths, University of London 2016 - 2019
BSc, Creative Computing, First-Class Honours

- Gained a deep understanding of an array of computer science topics for use within personal creative projects.
- Languages such as C and C++ were taught in combination with OpenGL to allow the creation of audiovisual applications.
- Specialised in machine learning modules during the final year, which covered both theoretical understanding and practical applications of machine learning, mainly neural networks.

Skills: C, C++, JavaScript, OpenGL, Python, Flask, SQL, Keras

Leeds City College 2013 - 2015
BTEC, Software Development, Distinction⋆ Distinction

- Dynamic web design using PHP and SQL.
- Event driven programming was taught using VBScript.
- The software development lifecycle was introduced.

Skills: VBscript, HTML, JavaScript, PHP, SQL

PROFESSIONAL EXPERIENCE

Full Stack Dev / Devops 06/15 - 08/15
Ginger Print & Design

- Set up and maintained a number of Linux virtual machines for use as web servers.
- Designed and developed webpages using Node.js.

Skills: Linux, Bash, cron, Node.js, HTML, JavaScript

PROJECTS

µCrypt 2020

End-to-end encrypted chat in less than 150 lines of logic

- µCrypt is an end-to-end encrypted chat web-app. Using a pre-shared key, user's messages are encrypted using AES, then relayed by the server.
- The server is written in Python, and the client in HTML/CSS/JavaScript.
- In order for the application to be audited with extreme ease, the server has been kept $\leq$50 SLOC, and the client logic $\leq$100 SLOC.

Skills: JavaScript, HTML/CSS, Python, Networking

Wobbler 2020

An FM Synthesizer for macOS and GNU/Linux

- Wobbler is a software FM synthesiser. It supports most of the functionality of a conventional FM synth: User defined waveforms, FM modulation ratio, attack, release and cutoff (which can be modulated by an LFO).
- The synth can be controlled in a number of ways: via a GUI, computer keyboard, MIDI keyboard, or CLI. It is also possible for users to compose music by writing scripts that control parameters and trigger notes.

Skills: C++, OpenGL, Shell script

Ecosim 2019

An ecosystem simulator for GNU/Linux

- An ecosystem and evolution simulator. Ecosim's environment is populated with a collection of skeuomorphic cellular lifeforms, each with their own genetic makeup. Over time, these genetics mutate via a process of natural selection.
- The project is written in C and the agents are rendered using OpenGL shaders. Evolution is achieved via a genetic algorithm.
- Population shifts and genetic changes can be visualised using a stand-alone Python application.
- Featured on the front-page of news.ycombinator.com.

Skills: C, Python, OpenGL

play_stdin.sh 2019

A tool for UNIX audio streaming

- play_stdin.sh is a set of simple shell scripts that enables audio streaming between two UNIX based machines. Designed to be portable and lightweight, no dependencies are required other than netcat.
- Originally created for personal use with a home stereo and Raspberry Pi, now has dozens of users.
- Featured on hackaday.com.

Skills: Shell script, UNIX/Linux, Networking

EEGDraw 2018

A brain training application

- EEGDraw is an audiovisual application that represents the users brainwaves using graphics and sounds, in a way similar to a music visualiser.
- An Arduino intercepts brainwave data from a chipset in a EEG toy. This data is then sent to a C++ application, where audio is synthesised and procedural graphics generated using OpenGL.

Skills: C++, Electronics, OpenGL, DSP