Niall Coleman-Clarke

I have been programming as a hobby since 2013 and my first paid job was in 2016. I like to explore a variety of different areas in computer science and solve challenges that come up in each project. I have many personal projects on **my github**.

Education

2018-2021 **Computer Science and Artificial Intelligence BSc (Hons)**; University Of Sussex

Grade Received: 1st (79%)

2015-2018 **College Education**; Bartholomew's Tutorial College (Brighton)
A-Level results obtained:

A: Computer Science
A: Mathematics
B: Physics

Work

Peer Assisted Learning Program: Leader/Mentor

Throughout 2nd and 3rd years at university, I worked in the peer assisted learning program, helping other students in computer science with their understanding, and assignments, and exam preparations. The learning was mutual - while I helped them, I also learnt about the many different approaches to solving a given problem.

Buzzshot: Python Django Development

I added a complete new feature to the app all the way from specification to deployment to end users, with coding in Python, HTML and CSS and including automated testing. I learnt about using Django in the industry; implementing services and interacting with APIs. I learnt how to contribute and work with an existing codebase and also adhere to the standards already in place.
I also developed a new app for Buzzshot from idea to launchable product, on my own where I got handed a brief and I had control over the rest (including UI - front page as well).

Buzzshot: Flashair Project

I wrote Lua code to run on an embedded system housed in an SD Card to allow direct integration between DSLR Cameras and the Buzzshot system. I overcame the challenges of poor existing documentation and a small, niche community.

- I delivered the project on time, within the work period

Google: Developer in Test for Google Fonts

I worked over the summer for google fonts as a developer in test using Python to write unit tests, as well as other miscellaneous tests. I learnt how to use git in a professional environment on a project with multiple contributors.

- **Commits** that I made while working there

UXBrighton: Front-end Web Developer

Worked directly on the UXBrighton website using HTML, Javascript and CSS. When working, I had to keep in mind responsive web design principles and have learnt how to use them. I also helped getting the website to comply with the WCAG-A accessibility standards.

Volunteering

Codebar: Voluntary Programming Coach

I volunteered for a while at Codebar in brighton, an organisation whose goal is to get more under-represented groups into tech roles. I think it's a fantastic cause which is why I did it. I found teaching there incredibly rewarding and also educational for me as I learned things when coaching.

- Taught Python, Javascript, HTML, CSS, Java

Howreadable: Experiment Development

I helped design the second iteration of this experiment which aims to collect empirical evidence on whether certain coding constructs/standards are more readable than their alternatives. I helped in defining the experimental method, the UX of the participant facing website, and designing and writing the code snippets used as test cases.

Work Experience

Wish Studios

I worked with the Unreal Engine where I made my own personal game mechanics. I had an insight into the games industry as well as how work might be for a games developer.

- Used the Unreal Engine's blueprints for GUI programming

Pragmatic WordPress Agency

I had the opportunity to shadow many people working at the web agency. As a part of the work experience, I worked on my own personal portfolio website using wordpress with a little bit of PHP, HTML and CSS.

Technical Experience

Platformer Game: Personal Project

A simple platformer game I created using the Love2D game engine which uses Lua to program. Towards the end of the project, I did shading for the game as well which was written using GLSL. The goal was to create everything myself and so I did; from physics to an ingame map editor and even down to the compression of those maps. I worked on it alongside college for 2 years.

Platformer Map Compression: Presentation

I gave a talk at a programming meetup (mainly about Javascript, but can be anything to do with programming) here in brighton called **asyncjs**. The talk was on how the map compression for my platformer game works, including the algorithm and the file format. I covered areas as complex as bit manipulation to an audience with different levels of experience in computer science. When I was talking to people afterwards, everyone seemed to understand the content in the presentation.

Programming Languages

- **Lua:**
  I started off programming with Lua, creating scripts in the Minecraft mod: Computercraft. I created more and more complex scripts until I eventually had an entire working **GUI** for interacting with the in-game computers. I later found out about the Love2D game engine for Lua where I created many projects including the **platformer game** mentioned above.
- **Javascript:**
  I moved on to NodeJS projects with the help of a tutor where I created many projects. I also do a lot of codegolfing using Javascript. I love doing HTML canvas animations, including: a **rainbow I made for celebrating pride**, **having fun with circles**, and a **cellular automata sandpile simulation**, **cellular automata particle system written using convolution**.
- **Python:**
  I started learning Python for my GCSEs and also used it for my A-Levels. I have since done many projects with it, including a **Discord bot** which offers many miscellaneous commands. One of the commands is a **text to emoji text** translator which works like **this**. I have also done some **Project Euler** challenges and have made a **repository containing my solutions** to them.
- **Java:**
  In my first year of university, we learnt Java. To better understand linear algebra (which I also learnt at that time), I created a **library** to do vector/matrix manipulations. I also challenged myself to create a **genetic algorithm for the game of life** in Java.
- **GLSL:**
  I have experience with GLSL when using the Love2D game engine for Lua. One of my projects was to create a **trippy/hypnotic spiral** for fun and it turned out to be pretty cool - I figured out how to make spirals in a 2D plane. Another project where I used GLSL for shading was my Platformer game, where I created a **shader** to create scenes in the game like **this**.
- I also have learnt **HTML**, **CSS** through work and I'm very familiar with Jquery and bootstrap.

Other Hobbies

Music	I listen to many types of music, however I mainly listen to chill, hip-hop, dance and occasionally drum and bass.
Socialising	I love to go out with friends and also love talking with people in general.
Travel	Travelling is something that I have loved ever since I remember; enjoying the culture and also eating the local cuisine.