> Samuel_Burford@UKC~$:

HTML	C#	Java	C	C++	Python	JS	CSS	GLSL

Computer Science @ University of Kent, Canterbury, England

• *Software Engineering* • *Micro-Controller Programming* • *Graphics Programming* • *Web-Dev* •

Skills

Developer with more than five years of experience, combining self-taught expertise with formal training. Possessing a diverse skill set spanning programming languages and the stages of application development.

Languages

Proficient in lower-level languages, including the C family of languages (*C*, *C++*, *C#*) in applications ranging from micro controllers to graphics programming. Similarly versed in Java and Python.
Confident in web-based development, covering *HTML*, *JS*, *CSS*, *MySQL*.
Competent in other languages, APIs and libraries.

Tools

GitHub – Used in most projects for 4+ years. Strong understanding of source control, branching, pull-requests.

VS Code (+ Visual Studio) - IDE of choice, leveraging relevant add-ons for efficient and clean code.

Linux – Developed projects on/for Linux systems for 2 years, with experience in command line interfaces.

VIM – Comfortable using VIM for CLI-centric applications, demonstrating a comprehensive knowledge of shortcuts.

Jet Brains (IntelliJ + Fleet) - Used for Java-based projects, utilising the tailored toolsets.

Arch – (Current OS) Experience with Arch-based Linux, both with and without a desktop environment.

Ubuntu – Experience using Ubuntu (Debian) based Linux and Ubuntu Server.

Manjiro (Arch) – OS of choice for an extensive period, demonstrating in-depth lower-level OS knowledge.

Windows (10/11) – Many years of experience.

Mac (OSX) – Versed in the usage of Mac operating systems, drawing similarities from Linux-based systems.

Blender (3/4) – Proficient and fast in 3D modelling, with many years of hobbyist experience. Capable of creating clean and efficient topology.

Maya (Autodesk) – Recently began learning the industry-standard 3D modelling tool Maya as part of the Autodesk suite of tools.

Projects

Almond Bread (Fractal Renderer)
• OpenGL • C++ • GLSL •

Designed from-scratch graphics engine using the OpenGL API to render Mandelbrot and Julia set fractals on the GPU, making use of shader programs. The project hosted on the GitHub page, is written in *C++* for Windows, providing valuable insight into low level graphics programming and API interfacing with the operating system.

Key Learnings:
- In-depth understanding of low-level graphics programming.
- Utilization of APIs to interface at operating system level.
- Writing shader programs (*GLSL*) to handle parallel workloads, specifically per fragment (pixel).

Touch Down Interface
• Arduino • C • WebSocket •

Created on a *Teensy 4.1 (Arduino)* as middleware between physical touch-down buttons and a *Black Magic Video Router.* Using *Black Magic's* network protocol and a web server with WebSocket functionality for debugging and configuration of the Arduino.
The interface facilitates intuitive and quick routing of different camera outputs to monitors for video engineers.
A Large application built from a complex project structure with distinct functionalities, including a parser for the *Video Router* and collaboration between a *web server* and *WebSocket* for debugging and configuring. Please see the: GitHub page.

Key Learnings:
- Integration of components into a cohesive, shippable product.
- Practical experience in developing a substantial project with diverse functionalities.

Education

University of Kent at Canterbury (2022 - Present)
BSc – Computer Science with a year in Industry.
Theory of Computing | Computer Systems | Algorithms | AI | Database Systems
Functional Programming | Software Development | Cyber Security

The Cottesloe School 6th Form (2020-2022)
A Level – Computer Science (B) | Mathematics (B) |Physics (C)
AS Level – Further Maths (B) | EPQ (B)

The Cottesloe School (2016-2020)
GCSE – Computer Science (9)

Contact

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Other

- Full UK Driving Licence.
- Keen rock climber 7+ yrs.