

Ali Al Temimi

Hull, UK | Open to relocation | Right to work: UK & EU

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[LinkedIn](#) | [GitHub](#) | [Portfolio](#)

Profile

Full-stack and embedded software engineer with a first-class Computer Science degree and research masters in Physics with a background building production tooling. Strongest in Python and modern web development (React, Three.js, Node.js), with hands-on embedded and hardware-integration experience and a track record of shipping software that delivers measurable results.

Experience

Research Software Developer - University of Hull - Hull (AUGUST 2022 - PRESENT)

- Designed and built custom Python software that generates and merges G-code so a hybrid 3D printer can print conductive electronic circuits directly into standard 3D-printed parts.
- Cut file-preparation time from 10–30 minutes to roughly one minute per part, and reduced the print error rate from around 50% (effectively 100% for anything more complex than a square) to 1–5%, removing the need for repeated dry runs before every print.
- Extended the printer's capability from straight conductive lines only to arbitrary conductive geometries printed into a part's infill (channels around 0.8 mm wide, at millimetre-to-micrometre precision).
- Built a line-by-line 2D G-code visualiser (DearPyGui) and automated the full workflow to run with no user input; the software is now relied on by two other researchers and has onboarded three interns.

Software Engineer - Global View Systems - Hull (OCTOBER 2021 - MARCH 2022)

- Progressed from a front-end to a full-stack role within a team of eight, shipping features across a healthcare auditing platform and a hospital portering system in live NHS use.
- Built a full-stack employee sign-in system for office fire safety, serving around 25 staff and replacing an ad-hoc manual process that left the business exposed; designed the backend to scale automatically as new staff were hired.
- Developed responsive web front-ends (Blazor WebAssembly, MudBlazor) and cross-platform mobile apps (Flutter, Android and iOS), including two-way radio integration (Motorola, Hytera) for porters in live clinical use across multiple NHS hospital trusts.
- Added time-tracking and audit-scheduling features covering all audit types, including annual efficacy audits; designed backend relational schemas and data migrations and supported cloud (Azure) deployments with the QA team.

Education

University of Hull - MSc by Research, Physics (AWARDED 2026)

Built production Python software for hybrid 3D printing of electronic circuits (see Experience). Thesis: developing G-code merging software to integrate electronic-circuit printing with other 3D-printing methods.

University of Hull - BSc (Hons) Computer Science, First-Class Honours (SEPTEMBER 2018 - MAY 2021)

Highlights: Advanced Programming (93%, C++, memory management, code analysis and testing), Artificial Intelligence (72%, genetic algorithm over a neural network in C#).

Hull College - Level 3 Extended Certificate in IT (2016 - 2018)

Distinction* Distinction Distinction.

Projects

ZipSTL - zipstl.com (live)

Fully client-side React and TypeScript app that searches inside .zip, .rar, and .7z archives for 3D models and renders each STL or OBJ in an interactive Three.js viewer. It runs entirely in the browser with no backend or database, indexing terabyte-scale archive collections (tested to 2.5 TB and 11,000+ archives) by reading only file metadata up front and extracting entries on demand, which keeps peak memory bounded by indexing concurrency rather than total dataset size. A pool of Web Workers handles parsing into zero-copy buffers and RAR/7z decoding via a WebAssembly build of libarchive, results are cached in an OPFS-backed LRU buffer, and the file tree is virtualized to stay responsive at 10,000+ nodes. Hosted on Cloudflare Workers.

DitherPlotter - [Technical Post](#)

Pen-plotter tool that converts an image into halftone strokes and generates the G-code a CNC plotter draws with a physical pen. A Python and FastAPI backend runs the image-processing pipeline, including Bayer dithering, Canny edge-traced contours, and tone-faithful stippling, hatching, and pointillism, while a React and TypeScript frontend previews the result on an interactive canvas.

Skills

Languages

Python - TypeScript - JavaScript - C - C++ - SQL - HTML - CSS

Web & Backend

React - Three.js - Node.js - FastAPI - REST APIs - PostgreSQL - MySQL - Supabase

Embedded, Graphics & Tools

Arduino - C/C++ - OpenGL - SFML - 3D Printing - Git - Docker - Jira - Linux