

Ali Al Temimi

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

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Profile

Researcher in nanoelectronics and functional 3D printing with a strong software-engineering foundation. Completed an MSc by Research developing G-code software that integrates printed electronic circuits with conventional 3D-printing methods. Combines hands-on fabrication and laboratory skills with Python tooling and full-stack development.

Research Experience

Postgraduate Researcher (Voluntary) - University of Hull - Hull (JULY 2025 - PRESENT)

- Continuing nanoelectronics research toward publication; two manuscripts currently in preparation.
- Implemented advanced homing and nozzle-wiping routines for the hybrid 3D printer, improving print repeatability and reliability.
- Developing methods to print conductive electronic tracks in three dimensions, extending the process beyond the existing planar / infill approach.

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

Thesis: Development of a G-code merging software to enable the integration of electronic-circuit printing with other 3D-printing methods.

- Designed and built Python software that merges and generates G-code, enabling a hybrid printer to embed conductive electronic circuits within standard 3D-printed parts.
- Extended 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).
- Reduced the print error rate from around 50% (effectively 100% for anything more complex than a square) to 1–5%, eliminating the dry-run iterations previously needed before each print and cutting file-preparation time from 10–30 minutes to roughly one minute.
- Developed a line-by-line 2D G-code visualiser (DearPyGui) and automated the workflow to run with no user input; the tool is now used by two other researchers and has supported three interns.
- Maintained and improved the custom printer, designing and manufacturing CAD inserts and add-ons (Fusion 360) to raise print quality.
- Poster presentation, internal research conference, University of Hull (date to confirm).

Research Intern - University of Hull - Hull (AUGUST 2022 - NOVEMBER 2022)

- Originated the Python G-code tooling that became the basis of the MSc research, expanding the project's scope to custom G-code manipulation; produced development and UI-design documentation (Justinmind) and planned features with Agile sprints and Kanban so the work could continue after the internship.

Teaching

Laboratory Demonstrator - University of Hull

- **Department of Physics** (Sept 2023 – May 2026): Demonstrated for the experimental physics laboratories to 15–30 first- and second-year students per year, supporting experimental method, data analysis and Arduino scripting. Ran lab safety through risk assessments; marked work and provided written feedback. Consistently positive student feedback year on year.
- **Department of Engineering** (Jan – May 2026): Demonstrated for the electronics and signal processing labs showcasing how to use STM32 processor to handle both analog and digital circuits. Helped students understand programming fundamentals in Matlab/Simulink and C.

Industry Experience

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

- In a team of eight, progressed from a front-end to a full-stack role: responsive web front-ends (Blazor WebAssembly), cross-platform mobile (Flutter), backend relational schemas and data migrations, and a hospital portering system in live NHS use with two-way radio integration (Motorola, Hytera).

Technical & Experimental Skills

Fabrication, lab & CAD: 3D Printing (FDM & conductive ink) - Chemical Cleaning - General Electronics - Profilometry - Microscopic Photography - Fusion 360 - Blender

Software: Python (NumPy, Matplotlib, DearPyGui) - C - C++ - Full-stack web (React, Three.js, Node.js) - Git - Docker

Education

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

Highlights: Advanced Programming (93%), Artificial Intelligence (72%), and group software-engineering projects using Agile and Scrum.

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

Distinction* Distinction Distinction.

Languages: Arabic (Native) - English (Fluent) - Swedish (Professional working)