

# Alan Gruszkiewicz

07415 579 842 | [nutkaalan19@gmail.com](mailto:nutkaalan19@gmail.com)

[linkedin.com/in/alan-gruszkiewicz](https://linkedin.com/in/alan-gruszkiewicz) | [github.com/alan-g04](https://github.com/alan-g04) | [nutka.dev](https://nutka.dev)

## EDUCATION

---

### University of Bath

*MComp (Hons) Computer Science & Mathematics with Professional Placement (2028–29)*

Bath, England

Sept. 2025 – Aug. 2030

### University of Liverpool Maths School

*4 A-Levels (A\*-A), incl. Mathematics, Further Mathematics & Computer Science*

Liverpool, England

Sept. 2023 – Jun. 2025

## EXPERIENCE

---

### DitchCarbon

*Software Engineering Intern*

Jun. – Sept. 2026

*Remote / London, England*

- Shipped production fixes across the company's internal platforms using a **Ruby on Rails**, **TypeScript** and **GraphQL** stack in a **Docker**-based environment, working in two-week sprints.
- Built a one-click admin control that deep-links staff straight to a team in the user-facing portal, saving ~10 seconds per lookup across hundreds of operations run weekly by the team.
- Added a reusable case-insensitive ordering scope to the portal's team-switcher (previously insertion-ordered), giving sorted output and noticeably more polished CEO client demos.

## PROJECTS

---

### Rhetorix | *React, TypeScript, Python, Flask, Docker* | [GitHub](#)

2026

- Built the **winning submission** at Bath Hack 2026: a real-time AI public-speaking coach that analyses delivery, pacing and content to return actionable feedback.
- Developed the full-stack application with a React/TypeScript (Vite) frontend and a Python/Flask backend, containerised with Docker for reproducible deployment by a 4-person team.

### DJI Photogrammetry Pipeline | *Python, OpenCV, NumPy* | [GitHub](#)

2025

- Engineered a Structure-from-Motion pipeline from first principles, reconstructing textured 3D meshes from uncalibrated consumer-drone video with no GPS, IMU or calibration data.
- Implemented the full geometric stack (SIFT matching, RANSAC pose estimation, Levenberg-Marquardt bundle adjustment, Poisson meshing) under a test-driven workflow with a full unit-test suite.

### Voronoi Research Tool | *JavaScript, Mapbox GL JS* | [GitHub](#)

2024

- Built and deployed an interactive web app visualising Voronoi diagrams over a 3D globe for a University of Liverpool research collaboration; presented findings to a lecture hall of faculty and peers.

## LEADERSHIP, TEAMS & ACHIEVEMENTS

---

### Competitive Hackathons — Team Captain & Lead Programmer

2023 – 2026

*4× winner across national & university events*

- Captained teams to wins including **Winner** at Iniversity events for **The Crown Estate** (plus in-person Runner-up), the **TBAS Hackathon**, and **Bath Hack 2026**.
- Engineered the Crown Estate winning entry — a path-optimisation tool for seabed-surveying drones integrating real-time meteorological APIs; commended by **Google DeepMind** executives.

### Team Bath Engineering Teams

2025 – Present

*Hydrorobotics, Autonomous Sailing & Prosthetics*

*Bath, England*

- Hydrorobotics** — **Head of Database**: design and manage the SQL data layer powering the team's competition vehicle and surrounding software.
- Autonomous Sailing (TBAS)**: develop ML navigation for an autonomous hydrofoiling catamaran built with **DRIFT Energy**.
- Prosthetics (VIP)**: contribute to an engineering team building haptic-feedback assistive prosthetics; volunteered at BRLSI's *Brilliantly Engineered* STEM festival, demonstrating the work to local families and schools.

### National Olympiads & Challenges

2023 – 2025

*Mathematics & Computing*

- UKMT Senior Maths Challenge**: Gold (x2), **BMO Round 1** & Kangaroo (Best in School); **Bebras**: OUCC qualifier.