MAXWELL CATMUR
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PROFILE

Upcoming Physics graduate targeting Trading Desk Operations Engineer (TDOE) roles. Experienced in technical coding, data queries and supporting production workflows — building tools and optimising infrastructure using Python, MATLAB and SQL. Collaborative, curious problem-solver with strong communication and stakeholder coordination.

EDUCATION

MPhys Physics – University of Warwick **October 2022 – July 2026**
Grade: First (expected)

- Achieved high marks across years one to three (85%, 89%, 82%).
- Relevant modules: scientific and high-performance computing, advanced mathematical methods, fluid mechanics, electromagnetism, quantum mechanics, condensed matter and statistical physics.
- Extensive numerical and simulation work: Monte Carlo simulations for the 2D Ising model, N-body integrator with 10,000+ runs and MEGNO analysis, and a C finite-difference PDE solver modelling industrial heat flow.
- Co-developed a LabVIEW stabilisation algorithm with PID control and led two 6-member group research projects, scheduling meetings and delegating tasks.

A-levels – Forest School **September 2020 – July 2022**
Grade: A*A*A*A*A* (Maths, Further Maths, Physics, Chemistry, EPQ)

WORK EXPERIENCE

RF Seekers Summer Intern **June 2024 – August 2024**
MBDA UK

- 10-week placement in the Modelling and Algorithms team working on radar processing chains for AESA systems.
- Optimised a key algorithm in MATLAB, reducing runtime by 85% and improving overall pipeline performance; implemented unit tests for validation.
- Co-developed a data-analysis application used by six colleagues to rapidly inspect range–Doppler images during performance campaigns; maintained the codebase with 50+ commits using version control.
- Presented technical outcomes to 20+ colleagues and documented work to support handover and subsequent development.

PROJECTS

Tailored CV Generator **July 2025 – present**

- Developed a CV and cover-letter generator using OpenAI's API in Python, producing structured JSON outputs validated with Pydantic and rendered to Word via docxtpl.
- Utilised robust prompt engineering strategies to mitigate hallucinations.
- Built a SQL database to store and track job applications and outcomes; achieved >80% on multiple ATS-checker sites.
- Maintained the project with GitHub version control and implemented input validation and an intuitive graphical user interface.

SKILLS

Languages: Python, MATLAB, C, SQL, JSON, Fluent English.
Tools: GitHub, Microsoft Office Suite.