WILLIAM COLOHAN

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PERSONAL STATEMENT

Third-Year Aerospace Engineering MEng student at the University of Sheffield, on track for a **First-Class degree**, with nearly two years of real management experience and **5+ years** of Fusion CAD and Python experience. Skilled in **Siemens NX, Autodesk Fusion, MATLAB and Ansys CFD/FEA**, having led several university engineering projects and currently a Combustion Chamber Team Lead at Project Solotron, a sponsored, well-known student hydrogen engine team. Currently looking for industry placements in aerospace engineering.

EDUCATION

UNIVERSITY OF SHEFFIELD

Third Year of Aerospace Engineering (Private Pilot Instruction) MEng *Sept 2024 – Present*

- Achieving a **First overall (82.2%)**, including 96% in Control Engineering, 92% in Statics & Dynamics, 88% in Mathematics II, 96% in MATLAB and 93% in Aerodynamics and Thermodynamics.
- Team lead in several projects, very comfortable making critical decisions and taking ownership.
- **Awards**: Global Engineering Challenge: Professional Behaviours Team Award for best presentation, Electrical Design Application Award for capacitor circuit design.

THOMAS ROTHERHAM COLLEGE

A-Levels in Physics (A), Mathematics (A*), Computer Science (A), EPQ (A*)* *Sept 2022 – June 2024*

- **Awards**: Computer Science Subject Award as the **highest-ranking student** in the college, High Achiever Award for placing in the **Top 5%** of overall cohort.

EXPERIENCE

JD WETHERSPOON

Team Leader *July 2022 – Present (Promoted April 2025), Previously Kitchen Associate*

- Promoted to **Team Leader**, becoming the youngest manager in a 100+ employee pub, leading, training and supporting staff during busy service periods and time-critical close-downs.
- Improved Back of House cleaning checklists to prioritise important tasks, resulting in a **10% improvement** in audit scores.
- Remodelling prep lists to allow the team to more effectively prepare stock for service.
- Ordering and managing stock deliveries of up to £10,000: considering external and internal factors in each order to ensure **100% availability**.

THOMAS ROTHERHAM COLLEGE

Academic Tutor *November 2023 – February 2024*

- Facilitated weekly mathematics review sessions for year twelve students, focussing on integration, statics and statistics, building **communication** and **problem-solving** skills.

PROJECTS

PROJECT SOLOTRON – Hydrogen Combustion Engine Development

Combustion Chamber Team Lead *October 2025 – Present (Promoted October 2026), Previously Team Member*

- Leading a multidisciplinary **team of 12 engineers**, establishing structure, organisation and communication.
- Managing recruitment (interviews), delivering technical presentations to other teams, and overseeing chamber CAD development and manufacture.
- Conducting thermal analysis and **CFD** using **Ansys Fluent** with **dynamic meshing** to model hydrogen-air combustion and temperature distribution within the chamber.
- Using **CFturbo** and **Ansys BladeGen** to analyse and design high-performance turbomachinery.
- Optimising thermal management, chamber geometry and turbulence modelling to **reduce engine knocking**.

PERSONAL PORTFOLIO PROJECT: wcolohan.co.uk

Independent Project *Summer 2026*

- Built and published a 5-project interactive engineering **portfolio** (wcolohan.co.uk) showcasing end-to-end CAD design, simulation and analysis studies across mechanical and aerospace disciplines.
- Optimised an actuator clevis bracket, using **Siemens NX** to parameterise the model, performing FEA in **Ansys Mechanical** and **LEFM** fracture mechanics with **Python** and **MATLAB** to achieve a 65% mass reduction.
- Simulated supersonic aerodynamics (shockwave boundary layer interactions (SWBLI) in **Ansys Fluent**) and flight controls (aircraft pitch autopilot in **Simulink** with 61° phase margin and ~10% overshoot).

ROCKET PROJECT

Avionics & Structures Lead *January 2026 – June 2026*

- Worked in a team of six to design, build and launch a high-power rocket, reaching a target altitude of **600ft.**
- Led the design of the fin assembly, launch jig and internal rocket structure in Fusion and Siemens NX.

DECARBONISING COMMERCIAL AVIATION – Engineering You're Hired

Team Lead *February 2026*

- **Led a multidisciplinary team** proposing electric taxiing (with superconducting axial flux motors) and regenerative braking, reducing aircraft taxiing fuel burn by **2-17%.**

QUADCOPTER REDESIGN

Structures Lead *September 2025 – January 2026*

- Redesigned a quadcopter frame, reducing mass by **10.3%** while maintaining a **6.0 crash safety factor.**
- Enhanced structural integrity and end-of-life disposability through strategic material selection and FEA.

ROBOT BUGGY

Systems & Control Lead *September 2025 – December 2025*

- Designed an autonomous Arduino navigation system for a robot buggy using **Simulink** and **Tinkercad.**
- Achieved a **20% reduction** in test completion time by iterative simulation and validation.

SKILLS

- Ansys Fluent & Mechanical (CFD/ FEA), MATLAB, Simulink, Fusion (5 years' experience) & FEA, Siemens NX, C/C#, Arduino, Rapid Prototyping, 3D Printing, Material Selection, Technical Presentations, Leadership & Management, CFturbo, Ansys BladeGen