

Oliver (Olly) West

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PROFILE

Imperial College London Aeronautics MSc student with a First-Class BEng from Swansea University and a semester abroad at Texas A&M University. Former Liquid Rocketry Lead at SwanSEDS with experience in propulsion design, manufacture, hot-fire testing and RDE research. Seeking a graduate propulsion or aerospace role.

EDUCATION

MSc Advanced Aeronautical Eng. **Imperial College London** **2026-2027**

- Modules include Aerospace Structures, Aerodynamics, Propulsion, Turbulent Flows, Guidance & Control, Aerothermodynamics & Re-entry vehicles.

BEng Aerospace Engineering **Swansea University** **2023-2026**

- Classification: First-Class with Honours (Top 7% of 170 student cohort)
- Dissertation Thesis: “Numerical Investigation of Rotating Detonation Engines for Space Applications” – Developing and refining models for Rotating Detonation Engines and Pressure-Gain combustion to improve model accuracy for real-world applications (kick-stages, etc.). Utilising CFD and thermal modelling in ANSYS.

Relevant Modules:

- Satellite Systems – EGA321 – Mission design, orbital mechanics, satellite communications, space environment, propulsion systems, attitude, power and thermal control systems, telecommunications systems.
- Design 1 – EGA165 – Designed and manufactured a STOL rocket-powered glider. Conducted a validation and test campaign of the glider.
- Design 3 – EGA302A – Design of a communications long-endurance UAV. Carried out a start-to-finish design process working in a group of 8 engineers with defined roles and responsibilities.
- Rocket & Space Technology – EGA215 – Rocket dynamics, multistage rocket equations, rocket engine calculations, Kepler’s laws, orbital mechanics.

Study Abroad – Junior **Texas A&M University** **2024**

- Relevant Coursework: Thermodynamics, Aerostructural Analysis, Aerodynamics, Aerospace Dynamics
- Projects: Member of Texas A&M University Rocket Engine Design and SEDS Solar Sail teams.

A-Levels **Corby Business Academy** **2016-2023**

- A-Levels: Maths, Further Maths, Physics, Geography
- GCSEs: 1x 9 (Geography), 7x 8 (Physics, Biology, English, History, Computer Science, Maths), 1x 7 (Chemistry), 1x 6 (Photography)

ENGINEERING & PROJECT EXPERIENCE

Liquid Rocketry Lead **SwanSEDS Rocketry Society** **Aug 2025 - Aug 2026**

- Led a team of 21 engineers in developing a new 2.5kN regeneratively cooled throttleable engine and thrust-vector-control actuation system.
- Designed a self-built 8-channel thermocouple data logger to provide a better understanding of the engine characteristics during firing.
- Led the design of a 2-axis thrust-vector-control actuation system on a constrained budget for use on a

propulsive lander.

- Designed and manufactured a thermocouple data logger for use with a 2kN engine testing providing valuable data after the hot fire
- Producing internal and external reports ensuring seamless knowledge transfer with the new team.

TCA & Fluid Systems Lead

SwanSEDS Rocketry Society

Dec 2024 - Aug 2025

- Successfully co-led the development of and hot-fired the first Welsh liquid rocket engine. [\[Link\]](#)
- Developed an additively manufactured impinging injector for an IPA/N₂O 2kN engine achieving a 33% weight reduction with ~70% fewer sealing surfaces, simplifying assembly and improving reliability. [\[Link\]](#)
- Co-led a propulsion team of 20 students to develop Swansea's first bi-propellant rocket engine. [\[Link\]](#)
- Utilised RPA, MATLAB, Python and ANSYS to calculate impinging angles, orifice sizes, mass flows and engine characteristics in developing Swansea's first student bi-propellant rocket engine.
- Engineered a test-stand mounting bracket in SolidWorks and ANSYS reducing material use by ~15% while maintaining a minimum Factor of Safety (FOS) of 5.
- Conducted cold flow testing at Race2Space validating pressure drops, discharge coefficient with 91% accuracy; analysed test data to provide actionable improvements and ensure engine performance in future hot fires.

Thrust Chamber Engineer

Texas A&M Rocket Engine Design

Aug 2024 - Dec 2024

- Assisted with test operations for Texas A&M's first bi-propellant rocket engine.
- Conducted Finite Element Analysis (FEA) on the injection face to ensure a minimum FOS of 1.5.
- Performed Failure Modes and Effects Analysis (FMEA) on the thrust chamber assembly to identify failure modes and develop successful mitigation strategies with limited spare parts and testing duration.
- Collaborated with numerous sub teams to create testing procedures for cold flow and hot fire tests contributing to pre- and post-test planning and execution.
- Presented technical results to industry partners during design reviews successfully validating failure modes and ensuring project success.
- Developed critical machinist documents for the injector pintle to ensure timely manufacturing of the Thrust Chamber Assembly on a student-built liquid rocket engine.

Logistics Team Lead

Texas A&M SEDS Solar Sail

Aug 2024 - Dec 2024

- Directed a team of 5 students to research and begin the development of Texas A&M's first solar sail CubeSat
- Produced a research paper on deployment systems with 20+ other engineers to present to industry experts

MACH-24 Payload Engineer

SwanSEDS Rocketry Society

Sep 2023 - Jun 2024

- Designed the payload bay using CAD and FEA for a 3km-class amateur rocket with critical safety factors and within strict operating conditions, securing first place with a 1% altitude error under tight budget constraints
- Conducted FEA on a payload bay to enable design optimisation, reducing overall weight by 33% and maximising payload volume, scoring highly in design reviews

SKILLS AND INTERESTS / AWARDS AND ACHIEVEMENTS

Technical Skills: FMEA, MATLAB, Simulink, Python, C#, ANSYS Fluent/Mechanical, SOLIDWORKS, RPA, OnShape

Scholarships: [BAFTX Scholarship](#): Awarded for academic merit towards study in the Texas, United States.

Certifications: Space Systems Engineering, Quantum Machine Learning in Engineering, National Flying Laboratory

Awards: Winners of the MACH-24 Category 2 Rocketry Challenge – Payload Engineer

Organisations: TAMU Rocket Engine Design, TAMU SEDS, TAMU SEDS Solar Sail, SwanSEDS, Swansea Aerospace Society, Aerospace Subject Representative

REFERENCES AVAILABLE UPON REQUEST