

ETHAN SHEEHAN

<https://www.linkedin.com/in/ethan-sheehan/> · +44 7920 575 483

ethansheehan9@gmail.com – fc23871@bristol.ac.uk

EDUCATION

Meng Aerospace Engineering, University of Bristol, UK – <i>First class overall</i>	2023-2027
A levels, British International School of New York, NY, USA – <i>A*A*A*</i> Math, Chemistry, Physics, Further Math	2021-2023

RELEVANT EXPERIENCE

HyPower Bristol – Propulsion Lead <i>University of Bristol's premier rocketry team</i> - Lead team of 20+ for Bristol's entry in the UK Race to Space Propulsion Competition and European Rocketry Challenge - Hotfired world's first CPl-Aluminum rocket engine (additively manufactured premium aluminium alloy combustion chamber) - Wrote MATLAB script to post-process and analyse .h5 test data to dictate next engine design iterations - Secured over £120,000 in funding and sponsorships for the project - Oversaw the development of a 300 bar feed system, containing SRAD servo-actuated valves and a coaxial propellant tank - Worked on Simulink model to simulate fueling operations and predict engine performance across various initial conditions - Designed and tested a novel Hydrogen/Oxygen torch ignition system - Developed 52k RPM electric fuel pump using AxSTREAM and CFTurbo	Feb. 2025 - Present
Bristol Composite Institute – Research Intern <i>World-leading institute for composites research</i> - Developed an Artificial Neural Network to predict material properties of 3D-printed hygromorph active bio-composites 3D-printed, conditioned, recorded, and tensile tested 80+ samples - Used TensorFlow machine learning library to build a convolutional neural network in Python and trained it on the samples collected	Jun. 2025 – Aug. 2025
Bristol Flight Lab – Avionics Demonstrator <i>University of Bristol's center for multidisciplinary aerial robotics</i> - Built new resources for the avionics stream of the University of Bristol's Aerospace Vehicular Design and Systems Integration 2 course, where students work in teams of 60 to design and build 1.2m wingspan UAVs - Created robust documentation and support resources for Ardupilot and MATLAB's UAV toolbox using Mkdocs and github pages - Developed modular example codes for small UAV avionics design in Python and LUA - Built a demonstrator UAV that lecturers will show students to help guide their designs - Worked on flight controller software, writing Python code using MAVlink and I2C data protocol to log and plot live data telemetry from custom sensors - Developed interactive GUI using React JavaScript to remotely actuate the UAV's control surfaces through Wifi and radio control	May. 2025 – Jun. 2025
HyPower Bristol – Engine Lead <i>University of Bristol's premier rocketry team</i> - Designed and test fired a 5kN regeneratively cooled liquid bi-propellant rocket engine, pushing it 20% past its designed operating conditions without sustaining any damage, claiming the UK student thrust record at the time - Led the design and construction of the additively manufactured nozzle and combustion chamber out of Inconel 718 using Autodesk Inventor - Wrote Python and MATLAB scripts to calculate the hoop and thermal stresses of the engine, the pressure drops across the engine, and sizing the coaxial tank - Conducted FEA in Abaqus CAE to ensure the structural stability of the cooling channels and manifold under the forces, pressures and temperatures subjected to it - Attempted CFD analysis of the cooling system to characterize the efficiency of the fuel manifold	Nov. 2023 – Jan. 2025
Odyssey – Avionics Engineer <i>Emerging Space Startup</i> - Designed the avionics bay of the thrust vector controlled solid motor lander rocket - Developed and tested a propeller based hopper system to validate TVC avionics and	Jun. 2024 – Aug. 2024

SKILLS & INTERESTS

Language: Fluent in English & French, proficient in Spanish (Canadian Citizen)

Software: Python, MATLAB, C++, Autodesk Inventor, Fusion 360, Fusion 360 CAM, Abaqus CAE, OpenFOAM, CATIA, Siemens NX, Ansys suite, Rocket Propulsion Analysis, Ardupilot, AxSTREAM, CFTurbo, GMAT, Arduino, Raspberry Pi, Git