Patrick Jordan

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EDUCATION

University of Bristol - Master of Engineering, Aerospace Engineering **2021 – 2025**
[US Equivalent]: Bachelor's Degree, Master's Degree – Aerospace Engineering. GPA: 3.49
Relevant Coursework: Feedback Systems and Automatic Control, Design Methods and Systems Engineering, Advanced Space Systems, Aircraft Propulsion

EXPERIENCE

FIRST Robotics Mentor, American School in London – **London, UK** **Jan 2021 – May 2025**
- Mentored over 110 students across three FIRST Robotics Competition teams, delivering lessons in programming, fabrication, and the design process using past experience in the FIRST ecosystem.
- Spearheaded the creation of a real-time vision processing program, teaching students how to implement live position estimation, object tracking, and path planning.
- Organized an overseas donation of 80+ robotics components to a local Virginia team, allowing the team to build their own robot test platform.

Headquarters Staff, FIRST UK – **London, UK** **Aug 2019 – Aug 2022**
- Identified a significant hardware fault in a major part supplier's product, communicating directly with the supplier and publishing a quick-fix tutorial that reached over 2,300 students.
- Streamlined the configuration of event scoring hardware, reducing setup time by 30 minutes and allowing two additional scorekeepers to be trained before each event.
- Created 20 instructional guides for over 500 FIRST Tech Challenge teams in the United Kingdom, including engineering basics, team management, and strategic thinking.

Summer Intern, Bridebook – **London, UK** **July 2019**
- Identified and proposed targeted solutions for areas of improvement in Bridebook's wedding planner.
- Obtained third-party feedback and revised solutions before presenting findings to company executives.

PROJECTS

Aerospace Vehicle Design and System Integration, *University of Bristol* **Sep 2024 – May 2025**
- Managed a team of six engineers to create a detailed out-size transport aircraft concept according to a top-level requirements document set out by Airbus' Future Projects Office.
- Designed and optimized the aircraft's landing gear and airframe for cargo loading using industry-standard tools, allowing for a 43-meter payload bay with a max capacity of 48 metric tons and a deck height of 2.6 meters.
- Developed a custom design UI to help the team identify viable design parameters, allowing for faster iteration of aircraft concepts.
- Led routine design reviews and progress meetings, using conflict resolution techniques and engineering judgement to make time-sensitive project decisions.

Advanced Structural Dynamics and Aeroelasticity, *University of Bristol* **Jan 2025 – May 2025**
- Conducted two lab experiments to verify dynamic concepts in rotor blades and complete rotor systems using real-world data and boundary-value problem (BVP) solvers.
- Identified critical failure modes of a fixed-wing structure using system identification and implemented closed-loop PID software to mitigate flutter and divergence risks in simulated flight.

Composites for Lightweight Structures, *University of Bristol* **Jan 2025 – May 2025**
- Completed a design study of a small carbon-fiber drone wingbox using industry-standard finite element analysis (FEA) software.
- Utilized non-linear buckling analysis and failure progression to optimize the wing laminate structure, increasing load capacity by 65% while reducing mass by 4.7%.

Undergraduate Dissertation, *University of Bristol* **Sep 2023 – May 2024**
- Investigated the effect of boundary layer temperature on flight efficiency at high Reynolds numbers (~3 million), where existing literature did not cover.
- Conducted convergence and sensitivity studies on a custom mesh, reducing computation to 14% of the original time while maintaining accurate simulations.
- Identified a 3.8% improvement in lift-to-drag performance by cooling targeting wing surfaces by 25˚C, opening a new possible avenue for flight efficiency.

SKILLS

Programming Languages: MATLAB, Python, Java, C#
Software & Tools: ABAQUS FEA, NASTRAN, PTC OnShape, Fusion 360, ParaView, Microcontrollers