

HARRY FOTHERINGHAM

I am an ambitious final-year MEng Aeronautical and Aerospace Engineering student at the University of Leeds. I completed a year-long placement as an Applications Engineer, gaining valuable hands-on experience. Due to my strong performance, I was invited to work part-time during my final two years, further developing my technical and problem-solving skills whilst balancing my studies. Driven by a passion for mechanical design and manufacturing, I am eager to contribute my skills and ideas to the industry.

✉ fotheringhamh16@gmail.com ☎ 0794 343 9082 🌐 harryfotheringham.com 🌐 harry-fotheringham-mn20hjf

EXPERIENCE

Applications Engineer

JUNE 2022 - CURRENT

DRIVEWORKS

My Role

- Worked within the Tech Team to provide testing and customer support for DriveWorks software.
- Engaged in diverse project work, enhancing skills in JavaScript, XML, 3D rendering, and PBR textures.
- Provided technical support to international clients, expertly diagnosing and resolving various issues, including website functionality and model generation challenges.
- Collaborated with cross-functional teams when required, while enhancing my skills in external stakeholder communication management and efficiently solving problems within tight timeframes.
- Performed comprehensive testing of new features and bug fixes, employing meticulous attention to detail and innovative testing solutions for 'break me' testing to identify potential product impacts.
- Documented bugs and testing notes with precision and clarity, translating complex steps into easy-to-follow instructions for future reference, which enabled colleagues to quickly grasp the issues and facilitate effective resolutions.
- Utilised Jira to prioritise tasks and ensure timely responses to Development Teams.

Key Achievements

- Staircase Demo
 - Showcased at 3D Experience World in the USA, now available on the company website (<https://driveworkslive.com/examples/staircase/>).
 - Took full ownership of this project, independently developing the demo by utilising my advanced knowledge of DriveWorks to create a detailed 3D model of the staircase, enabling users to configure and view their stairs in real-time.
 - Conducted rigorous testing of new demo features and partnered with internal stakeholders, including Marketing, to design an engaging UX/UI.
- Managed the Support Team
 - One of the first placement students at DriveWorks to do this.
 - Prioritised and delegated incoming support issues, utilising Microsoft CRM, ensuring critical cases were addressed promptly.
 - Led daily team meetings to provide status updates to both the Tech Team and senior leadership, as well as escalating cases as necessary to senior staff.
 - Handled around 40 new cases per week, including technical support, infrastructure setup, and customer implementation.
- On my initiative, earned over five SolidWorks qualifications, including the prestigious Certified SolidWorks Expert, making me the third most qualified member of the Tech Team.
- Created over 15 Advanced Feature Parameters, and multiple project templates, and form templates, enhancing customer control and functionality in both DriveWorks Pro and Solo software.

Flight Stability and Control Systems Engineer

OCTOBER 2024 - CURRENT

UNIVERSITY OF LEEDS - IMECHE UAS CHALLENGE

- Developing and programming software systems that control aircraft, including autopilot and navigation algorithms, ensuring smooth and precise control.
- Collaborating with the Aircraft Structures Team to rigorously test and validate control algorithms against accurate aircraft models before implementation.
- Contributing to the development of a ground control station, enhancing overall system functionality.
- Currently in the early stages of this role, actively growing my expertise in flight stability, control and autonomy.

TATA STEEL

- Assisted engineers across multiple departments including: Automotive, Energy, Packaging and R&D.
- Performed tensile tests on bone samples, inputting key data such as width and length, and operated machines to measure the material's Young's Modulus.
- Monitored and recorded data from the small-scale hot mill during operations.
- Developed and programmed a control system for the water jet's spray during the metal cooling process which was used in the full scale Hot-Mill.

EDUCATION

Aeronautical and Aerospace Engineering MEng

SEPTEMBER 2020 - CURRENT

UNIVERSITY OF LEEDS

Key Projects

- Laparoscopic Scissor Redesign (Individual Engineering Project)
 - Led a year-long individual project focused on improving the environmental impact of laparoscopic surgical scissors, using the SolidWorks Sustainability add-in to analyse and reduce the device's carbon footprint.
 - Designed new complex models in Solidworks and authored a comprehensive final report in LaTeX.
 - Presented project findings to industry experts, and answered following questions.
 - Achieved a top 10% grade, overcoming the challenges of designing and modelling from scratch.
- Payload Optimisation of an RC Plane (Aerospace Vehicle Design)
 - Co-led a project to modify the Arrows 1400mm Prodigy RC plane for maximum payload capacity.
 - Utilised SolidWorks for centre of gravity testing, XFLR5 for aerodynamic analysis, and Abaqus for structural analysis of the wings.
 - Applied advanced knowledge of stability and control, performing critical calculations to optimise flight performance while adhering to CAA regulations for small drones.
 - Managed team responsibilities, planned lab sessions, and ensured smooth communication through Trello to track progress.
 - Overcame challenges related to teamwork and quality control by holding weekly meetings to ensure alignment and minimise rework.

Key Modules

- Aerodynamics and Propulsion
- Aerospace Structures
- Aerospace Systems Engineering
- Computational Fluid Dynamics
- Economics and Management
- Engineering Material
- Flight and Orbital Mechanic
- Mechatronics and Measurement Systems
- Rotary Wing Aircraft
- Spacecraft Dynamics and Control
- Thermofluids
- Vibration and Control

A-Levels

2018-2020

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- Mathematics - A*
- Biology - A*
- Chemistry - A*
- Physics - A*

GCSE's

2013-2018

THE HAYFIELD SCHOOL

- Achieved 11 GCSEs including:
- Mathematics - 9
- English Literature and Language - 8 and 7
- Product Design with Electronics - A*

SKILLS & CERTIFICATIONS

- Abaqus
- Arduino
- ArduPilot
- Ansys
- C++
- CSS
- Drivers Licence
- DriveWorks - CDWP
- GitHub
- HTML
- Javascript
- LaTeX
- MatLab
- Simulink
- Solidworks - CSWE
- SQL
- SVG
- VoxelMaker
- XFLR5
- XML