

# Akshat Kothari

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## Education

Oct 2024 - 2028

*Master of Engineering, University of Cambridge*

Cambridge

- **Mechanical Engineering:** Undertaking extensive studies in mechanics, mechanical vibrations, and thermofluid dynamics.
- **Structural Engineering:** Specialising in the analysis and application of materials science and structural mechanics.
- **Mathematical Methods:** Applying advanced mathematical and computational techniques to engineering problems.
- **Computational Skills:** Advancing existing Python Skills and eventually applying them towards a Mars lander project. Utilising libraries like NumPy and matplotlib for data analysis and visualisation.
- **Electrical and Information Engineering:** Delving into the physical principles of electronics, circuit analysis, linear and digital circuits, electromagnetics, and information processing.
- **Integrated Electrical Project:** Acquiring hands-on experience with an oscilloscope and various electronic components, including both analog (capacitors, inductors) and digital (microprocessors) devices.
- **Project Experience:** Developing and analysing a comprehensive model of a single-person rollercoaster, incorporating real-world parameters and utilising SolidWorks' advanced features (Motion Simulation Tools, Sheet Metal, Toolbox).

Sept 2022 – Aug 2024

*A levels Greenhead College*

Huddersfield

- Grades: A\*A\*A\*A\*A\* in Further Maths, Physics, Maths and Chemistry.
- Computing, Badminton and Debating

Jan 2018 – Aug 2022

*GCSEs Trinity Academy Halifax*

Halifax

- Achieved Ten Grade 9s in subjects including Mathematics, Chemistry, Physics, Biology, English Language, and French.
- As Head Boy I showcased leadership and responsibility by representing the student body to important stakeholders such as the MP and the Mayor.  
Additionally enhanced my public speaking, organisation, and teamwork skills through active involvement in school activities.

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## Experience

Space Flight Team

Oct 2024-present

Cambridge University Space Flight Society

- Collaborated in a student team to design, simulate, and construct a small-scale rocket.
- Utilised Open Rocket for optimisation and simulation of the rocket's design, alongside Autodesk Fusion for design elements, incorporating 3D printed components.

Decarbonising Transport through Engineering Work Experience Week

July 2023

University of York

- Gained hands-on experience in sustainable engineering practices while collaborating in a team to solve practical engineering tasks.
- Collaborated with professionals on reducing carbon emissions in transportation through researching lithium-ion batteries and their applications in EVs.
- Developed and presented the opportunities and challenges around lithium-ion batteries focusing on their degradation.

Private Tutor

Nov 2022- Mar 2024

*Tutored in Maths, Physics, Chemistry, and English for GCSE and A-Level Exams*

- Tailored teaching methods to individual student needs, leading to top exam results.

- Utilised strong communication and problem-solving skills to address and overcome learning obstacles.
- Successfully helped students enhance their understanding and confidence in core subjects.

**Volunteer**  
**British Heart Foundation**

Nov 2022-Jan 2024

- Oversaw Shop Floor Operations: Managed customer interactions and sales, bolstering marketing, communication, and teamwork skills.

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**Additional Information:**

**Languages:** Fluent in English and Hindi with Basic French proficiency.

**Skills:** Programming experience in Python, CAD experience with SolidWorks, research and presentation skills, proficiency in Excel and PowerPoint.

**Hobbies:** Rowing and cricket as part of St John's College.

**Referees**

Dr Joyce, Director of Studies, Department of Engineering, University of Cambridge, [hjj28@cam.ac.uk](mailto:hjj28@cam.ac.uk)

Dr Evans, Tutor, St John's College, University of Cambridge, [gle24@cam.ac.uk](mailto:gle24@cam.ac.uk)