

Harry Edward Olive

School House, Eastington Lane, Lapford, EX17 6QE
harry.olive18@gmail.com, [linkedin.com/harryolive](https://www.linkedin.com/company/harryolive), 07496842055

Education:

2018-2022: **Imperial College London: MEng Mechanical Engineering**

- Achieved First Class Honours
- Engineering Modules: Mathematics, Computing, Manipulator Robotics, Robotic Vision, Mechatronics, Advanced Control, Machine Learning, Manufacturing Technology and Management, Design and Manufacture, Aircraft Engine Technology, Fluid Mechanics, Thermodynamics, Heat Transfer, Stress Analysis, Materials, Automotive Engineering, Machine Dynamics and Vibrations, Mechanics

2009-2018: **Blundell's School**

- A-levels: Mathematics (A*), Further Maths (A*), Physics (A*), Chemistry (A), EPQ (A*)
- GCSE's: 12 A*'s

Engineering Experience:

Robotic Hand & Undergraduate Research Opportunity: Ongoing project since 2017. Designed reliable mechanical joints using Solidworks, manufactured using 3D printing and traditional machining, fabricated custom PCBs, developed kinematic model in MATLAB, programmed motor controllers and hierarchy of control with C++. Integrated with an amputee control system developed at Imperial College London. Tested and received feedback from an amputee.

Industrial Robotic Arm Project: Designed a miniature 5 degree of freedom robotic arm using readily available components. Assigned reference frames and determined forward kinematics to evaluate workspace. Derived inverse kinematics and developed path planning for smooth motion.

Automated Manufacturing Project: Devised an automated machining solution for an automotive brake drum. Created a route sheet and work-holding solution. Selected optimal cutting tools and suitable work centre. Produced a CAM program, Gcode, tool crib and setting sheet for CNC machining. Developed factory plan and metrology solution. Calculated and optimised manufacturing costs.

Centrax Gas Turbines Internships: Gained an in-depth insight into the working principles and manufacture of industrial gas turbines. Worked with Engineers on various tasks including stress analysis on a new maintenance platform and selecting a new water injection pump.

Formula Student Battery Project: Worked as Technical Lead in a group of 4 to design and build a battery module for a Formula Student Electric Car. Included cell selection, thermal modelling, mechanical design, CAD model version control, liaising with external manufacturers and testing electrical and thermal performance.

Autonomous Buggy Project: Programmed a buggy to autonomously navigate a mineshaft identifying coloured cards for directions. Experienced using Git-hub for version control and code sharing.

Formula Student Upright Project: Designed an upright for a formula student race car. Minimised mass using FEA stress simulations to analyse forces under cornering, braking and acceleration conditions.

Positions of Responsibility & Achievements:

- Neil Watson Memorial Prize for 'excellent oral communication of technical information' (2020)
- Deputy Head Boy (2017-2018)
- Awarded Full Academic Colours in the Sixth Form (2017)
- HM Lord Lieutenant's Cadet for Devon (2016)
- Cadet Sergeant in Blundell's School CCF (2016-2017)
- Team Leader for several outdoor pursuits: 35 & 45 Mile Ten Tors Challenge (2015 and 2017), Bronze and Silver Duke of Edinburgh Award (2015 and 2016), World Challenge Expedition to Borneo (2017)

Skills:

- Proficient in: Solidworks, Python, MATLAB, C, C++
- Manufacturing Experience: milling, drilling, turning, soldering, laser cutting and 3D printing
- Languages: fluent in English, beginner in German

References: Available on request