

Mattie Ball

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Profile

Mechanical Engineering student with hands-on experience in **Formula One**, **start-ups**, and research. Skilled in **design**, **prototyping**, and system optimization. Combining mechanics, software and an obsession with understanding how things work. A fast learner and problem-solver. Crazy enough to **change the world** with ideas and quality execution.

Education

Imperial College London, Masters of Mechanical Engineering: On track to **receive 1st**

Courses: **Mathematics** (92.4% in most recent exam), Computing, Fluid Dynamics, Thermodynamics, Heat Transfer, Dynamics, Materials, Stress Analysis and Design.

Projects: - **Led of team of 5** for a 6 month long **humanitarian Gibbon**-aid bridge prototype project.
- Womens health project of a migraine headband, designed for 10,000 units manufacture.
- **Responsive Web Design Certification** (in progress) on Free Code Camp

Experience

Business Opportunity Researcher | Danu Insights (Start-Up) | Jan 2025 – Present

- Integrating **Bayesian experimental design PoC to Formula One**, enhancing decision-making in high-performance engineering. Conducting **feasibility study** to drive real-world implementation.

Research & Development Engineering Intern | Pathfinder Medical* | Jul 2024 – Sept 2024

- Designed and prototyped an **Arduino-controlled device** for **ISO 7 cleanroom** operations, ensuring compliance with stringent medical device manufacturing standards.
- Developed and integrated **precision mechanisms**, enhancing device reliability and robustness for potential real-world deployment.

Placement Year Engineer at Red Bull Formula One* | Sept 2022 – Sept 2023

Oct 2022 to Aug 2023, inclusive of four rotations:

Fluid Simulation Team: **Improved cooling** flow in engine designs.

Tooling Design Team: **Designed and released 20+ parts** and sub-assemblies that solved assembly problems to tight deadlines, integrating to the complex engine assembly.

Engine Build Team: Led execution of **practical test requests**, documenting and presenting results.

Mechanical Simulation Team: **FEA Simulations** to guide development.

Awards

Institute of Mechanical Engineers Clive Hickman Scholarship | July 2024

Awarded the first-year undergraduate scholarship.

Imperial Enterprise Lab Idea Challenge 1st Place | June 2024

Collaborated in a team of five to pitch our solution to social media algorithms to a panel of investors.

Royal Academy of Engineering “Leadership Award” | May 2024

Awarded top scoring scholar across the UK for the 2024 cohort of Leadership Awardees.

UCL Outstanding Participant Full Scholarship | August 2024

Awarded for academic success and impact in the F1 in Schools World Finals STEM Competition.

Skills

- **Coding:** Python, html, CSS
- **CAD:** Siemens NX, Solidworks, Fusion 360
- **CFD:** StarCCM, Particleworks
- **FEA:** Abaqus
- Microsoft Office
- Having fun and getting things done

Activities and Interests

Societies: Skilled rower, racing in eights representing ICSM Boat Club; Imperial Eco Marathon and Formula Student team Mechanical Engineer, Learning French and Swedish on [Duolingo](#), Blender Animations