

Ashen Wijayaratne

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Third-year Aeronautical Engineering student (QCA 3.62/4.0) with hands-on experience in CAD, aerodynamic analysis and design optimisation, seeking a **Summer 2027 internship** in product development or design and analysis.

TECHNICAL PROFICIENCIES

CAD & Design	SolidWorks (CSWA), GD&T, DFAM (CSWA-AM)
Analysis & Optimisation	XFOIL/XFLR5, Altair HyperWorks (Topology Optimisation)
Programming	Python, MATLAB, Excel, $\LaTeX$
Currently Learning	ANSYS Fluent, SolidWorks Simulation

EXPERIENCE

SR Technics Airfoil Services, Cork | *Product Process Engineering Intern* May 2026 to Present
- EASA Part-145 MRO specialising in turbine blades and vanes for CFM56, LEAP, Pratt & Whitney and Rolls-Royce engines.

- Supporting product process engineering for CFM56 nozzle guide vanes, outlet guide vanes and vane sectors, working alongside engineering supervisors and operators to monitor repair processes and resolve production issues.
- Developed an automated SQL reporting workflow to generate daily scrap reports and track product rework cycles, saving co-workers more than 4 hours of manual work each week.
- Prepared engineering reports and technical documentation for communication with OEMs and other regulatory bodies.
- Updated operator instruction sheets (OP sheets) to make repair procedures clearer for production-line operators.

Formula Student UL, University of Limerick | *Rear Wing Lead Engineer* Sep 2026 to Present
- Student team designing, building and racing a single-seater race car for Formula Student competitions.

- Lead rear-wing development for the 2026/27 car and support the front-wing team on the overall aerodynamic package.

ULAS HiPR, University of Limerick | *Avionics & Structures Design Engineer* Jan 2026 to Present
- Student-led rocketry team designing, building and launching experimental rockets.

- Designed and built the avionics and payload bays for Dullahan, a 2.65 m two-stage rocket, taking the components from initial requirements through CAD, structural design and optimisation to workshop manufacture.
- Produced detailed SolidWorks models and engineering drawings for multi-part flight hardware, considering component integration, GD&T, tolerancing and design for manufacture and assembly.
- Applied Altair HyperWorks topology optimisation to reduce avionics and payload bay component mass by an average of 50% while maintaining required strength and stiffness.
- Now designing the thrust and propulsion structure for the new EuRoC rocket.

SELECTED PROJECTS

Wing Optimisation for a Hypothetical Electric GA Aircraft (University Project, Grade: 96%) [📄 Report](#) [🔗 Code](#)

- Developed the preliminary aerodynamic design of a General Aviation electric aircraft optimised for cruise efficiency.
- Built a Python-based optimisation workflow to evaluate 170+ NACA airfoils in XFOIL, selecting the optimum section via a weighted multi-criteria performance matrix.
- Refined the 3D wing in XFLR5 by iterating aspect ratio and taper ratio, achieving a predicted cruise glide ratio of 31.46.
- Sized a high-lift flap system to meet take-off/landing stall requirements and completed compressibility (critical Mach) and safety assessments, including a two-stage ballistic parachute system.

Battery-Powered Hill-Climb Vehicle (University Project, placed 11th of 45, Grade: A1) [📄 Write-up](#)

- Led a team of 5 through the end-to-end design, optimisation, and fabrication of a battery-powered vehicle for a Design, Build, Compete competition where I applied engineering design principles through SolidWorks CAD modelling, technical drawings, and analytical optimisation to evaluate performance trade-offs and guide design decisions.

EDUCATION

University of Limerick - Limerick, Ireland Sep 2024 to May 2028 (B.Eng), M.Eng 2029

- B.Eng Aeronautical Engineering: 3rd year student maintaining a Quality Credit Average (QCA) of 3.62/4.0.
- President's Letter for Outstanding Academic Achievement during three of four academic semesters so far.
- Serving as UL's School of Engineering Student Representative for academic year 2026/27.

Templeogue College - Dublin, Ireland 2022 to 2024

- Leaving Certificate: 589/625 points, notable results in Mathematics (93%), Physics (97%), and Biology (99%).

MEMBERSHIPS & INTERESTS

- Memberships:** Student member of Engineers Ireland and the Institution of Mechanical Engineers (IMechE).
- Sport:** Treasurer of the UL Amateur Boxing Club (around 300 members); Consistently training boxing and MMA.
- Chess:** Playing for over six years and former school team captain. FIDE Blitz rating:1605.