

EDUARDO CAVAZOS QUINTERO

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Education

Massachusetts Institute of Technology

Aug 2025 – May 2029

Bachelor of Science in Aerospace Engineering GPA: 4.75/5.0

Cambridge, MA 02139

- Materials & Structures, Thermodynamics & Propulsion, Fluid Dynamics, Signals & Systems, Principles of Automatic Control, Diff. Equations, Intro to CS & Programming with Python, Statistics & Probability, Physics I/II

South Texas College

Aug 2022 – Jun 2025

Associate of Interdisciplinary Science with a Major in Mechanical Engineering, GPA: 3.87/4.0 McAllen, TX 78504

Skills

Design: CFD/StarCCM, CAD, Python, SolidWorks, NX/Teamcenter, ANSYS, VSCode, MATLAB, FEA, Fluent, GitHub

Hardware & Manufacturing: Machining (Manual Mills, Manual Lathes), Waterjet, Welding, 3D Printing, Prepreg Layup & Composite Manufacturing, Drill Press, Band Saw, Power Tools, Sanding, Compression & Tension Testing

Technical Projects & Build Team Experience

Aerodynamics Team Responsible Engineer

Jun 2026 – Present

MIT Motorsports

MAD Garage @ MIT

- Built & validated a STAR-CCM+ radiator model, matching air/coolant-side pressure drops (93 Pa/5.1 kPa), & outlet temps. for heat rejection (2.34kW) & mass flow (0.17kg/s) dropping radiator depth 8mm saving (0.5kg) in total
- Direct design meetings for MY27 aero package team, scoping full aero redesigns against FSAE 2027 aero rules moving towards a $Cl_A 4.0 \pm 0.2$, $Cd_A 1.3 \pm 0.1$, and 42/58 front/rear aero balance within a 14.22 kg, \$4,100 budget
- Trained the full aero team on Star-CCM+ sim workflows, & leading onboarding & training of 7 new members
- Updating Rear Wing and implementing new active aero components as well as sidepods, never before used at MIT

Turbine Team Responsible Engineer

Oct 2026 – Present

MIT Sustainable Engine Team (SET)

Energy Commons @ MIT

- Modeled a bladed disk turbine rotor with an M8x1.0 threaded hub for shaft, to drive a 24 kW compressor at 159,000 RPM. Our mean-line model sizes the velocity triangles, flow path & blade losses for 80% efficiency
- Built a MATLAB data check of the model from the sheet that reproduced its velocity triangles exactly & caught 5 errors, including an understated hub Mach (0.95 vs. 0.98) & a 24/27 blade count with forced-response risk
- Ran a thermal-structural FEA in ANSYS on a Haynes 230 turbine blade, sweeping 27-702°C under 100–500 kPa gas loads to predict ~0.1 mm thermal growth, peak bending at root (± 38 MPa) & a 9x margin to yield at 650°C

Composites Team Responsible Engineer

Aug 2025 – May 2026

MIT Motorsports

N52 Edgerton Center @ MIT

- Fabricated carbon fiber parts for 4 vehicle components (body panels, wing elements, seat shell, battery enclosure) via prepreg and wet layup, vacuum bagging, and bonding which were all significantly lighter than last year ~15%
- Tested 2 carbon fiber coupons in tension and compression on an Instron (MIT D-Lab), measuring strength and stiffness to validate layup schedules against design requirements; supported impact attenuator crush testing
- Machined 7 molds, tooling fixtures, & parts on manual mills, lathes, & waterjet; prepared foam plugs for molds

Research & Lab Experience

UROP Research Assistant

Sep 2026 – Present

Wright Brothers Wind Tunnel, MIT Aero Astro: PI: Prof. Mark Drela (XFOIL Creator) Cambridge, Massachusetts

- Implementing wall-interference & blockage corrections in GitHub and using MATLAB as well as using XFOIL, improving the accuracy of force and pressure data delivered to industry, research, & student test campaigns
- Lead students & industry projects using the tunnel and develop and implement their model then post process data
- Leading an independent project from CAD through CFD and wind tunnel testing of a scale-model airfoil, comparing predicted vs. measured lift, drag, and pressure distribution across 10~15 angles of attack

Extracurriculars & Other Jobs

AIAA Executive Board Member — MIT Student Chapter

Sep 2026 – Present

- Helping organize tech talks, industry panels, & engagement events for the aerospace student community & faculty

Orientation Leader & Associate Advisor — MIT OFY

April 2026 – Present

- Guiding incoming first-years through orientation programming & supporting their transition into campus life

Makerspace Mentor

Feb 2026 – Aug 2026

- Trained & advised on 3D printer setup while maintaining hardware, managing inventory, & optimizing models

Certifications

AE1110x: Introduction to Aeronautical Engineering

Delft University of Technology

Microsoft Office Specialist: Excel & Word Associate (Excel and Word 2019)

Microsoft