

Alfredo Colas-Gullon

+1 (513) 629-0571 | acolas@purdue.edu | [linkedin.com/in/acolasg](https://www.linkedin.com/in/acolasg)
Cincinnati OH | U.S. and E.U. Dual-Citizenship

Summer/Fall 2026 Engineering Internship (Mechanical, Aerospace, Manufacturing) Willing to Relocate.

Education

Purdue University – West Lafayette, IN May 2027
Bachelor of Science in Aerospace/Astronautical Engineering GPA: 3.50/4.00
Minor in Global Engineering Studies
ISAE-SUPAERO – Toulouse, France Jan – May 26
Study Abroad Exchange Program in Aerospace Engineering

Work Experience

Composites Manufacturing & Simulation Center, Composites Research Intern Jan 25 – Present

- Delivered high-precision composite mirror and mold designs in Siemens NX and Fusion 360.
- Manufactured CNC precision molds and produced FDM subcomponents and alignment jigs.
- Validated Composite Mirror Prototypes as most performant by BNL physicists (EIC, DoE).
- Engineered and validated a thermal-volume oven extension enabling curing of 11-ft carbon beams, expanding oven capability, performing reliably for repeated 350F cycles.

Fermi National Accelerator Laboratory, Engineering Research Intern Jul 25 – Present

- Collaborated with cross-functional teams to support composite fabrication and testing initiatives.
- Redesigned and improved thermal-testing fixtures to validate bi-phase CO₂ cooling performance in high-density sensor arrays, reducing test setup risk and setup time by over 20 minutes.

Leadership Experience

Purdue Solar Racing, Composites and Battery Lead Sep 23 – Present

- Led a team in designing, analyzing, and optimizing a fully integrated battery enclosure system, including carbon-composite support ribs and embedded cooling, achieving ~30% mass reduction.
- Developed a Python heat-transfer simulation tool integrating tube-bank and fan-system models, reducing battery thermal design iteration time and guiding hardware optimization.
- Designed and field-validated an air-cooling thermal management system for a 20kg Li-ion battery pack, maintaining near-ambient temperatures across 1200+ road miles in 80–110 °F conditions.
- Manufactured a molded Kevlar-composite battery enclosure, improving Li-ion cell and BMS containment, increasing structural rigidity, and reducing system mass by over 1 kg.

Purdue Cycling Club, Treasurer Apr 24 – Jun 25

- Created and executed a \$30k team budget, leveraging historical spending information to guarantee safe spending throughout the school year across dozens of competitive events.

Additional Skills

CAD/CAE	Siemens NX, Autodesk Fusion 360, Inventor, SolidWorks
Manufacturing	Additive Manufacturing (FDM/SLA/SLS), 3 Axis CNC, Composites (VARTM. Prepreg)
Programming	Proficient in Python, MATLAB, C, C++, Java, HTML/CSS/JS
Languages	Native in English, Spanish and proficient in French