

Eithin Pero

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Engineering student with hands-on experience in process improvement, mechanical design, and manufacturing, driven by a passion for practical, high-impact solutions.

HIGHLIGHTED EXPERIENCES

Communication & Leadership

- Facilitated active-learning workshops for junior engineering students, breaking down complex engineering concepts and encouraging peer engagement to support academic success
- Led a 39-member student team to an international engineering design competition in Montreal as Co-President (Coach), earning Best Coaches and contributing to 13 additional awards for the Carleton University delegation

Technical Skills

- Software: Cortona 3D, Microsoft Platform, CatiaV5, MATLAB, SmartTeam (Basic)
- Testing & Tools: Oscilloscope, Impact Hammer, MTS, Machine Vision
- Selected by advisor to lead CatiaV5 redesign of a UAV outer mold line, applying advanced part and surface design expertise to fix geometry issues, enabling structural and aero analysis
- Interpreted and implemented professional engineering drawings to ensure accurate, standard-compliant part assembly for client deliverables
- Demonstrated reverse engineering skills by delivering CatiaV5 models and detailed engineering drawings with a focus on design for manufacturability

EDUCATION & CERTIFICATIONS

B.Eng, Aerospace Structures and Systems

September 2020 – December 2025

Carleton University, Ottawa, Ontario

- Graduated with distinction, GPA 3.79
- 2020-2021 and 2024-2025 Deans' Honour List

Certifications & Clearances

- RTX Core Champion (Lean/Six Sigma), Overhead Crane, WHMIS
- Formerly CGSA-Cleared under Canada's Controlled Goods Program, eligible for re-assessment

RELEVANT EXPERIENCE

Research Assistant

May 2025 – Present

Carleton University, Ottawa, Ontario

- Implemented high-speed dynamic digital image correlation (DIC) using GOM to validate the modal response of an aluminum wing specimen subjected to impulse loading
- Evaluated multiple rigid mounting configurations for a fixed-free boundary condition, identifying and implementing a T-bar clamp solution that minimized unwanted vibration
- Enabled verification of stick model improvements by supplying high-fidelity full-field displacement data from dynamic DIC tests.

Systems Engineer**September 2024 – April 2025**

Engineering Capstone Design Project, Carleton University

- Worked with a team of 17 students to develop an additively manufactured fixed-wing UAV for aerial mapping, culminating in a successful taxi test validating system performance
- Designed, manufactured, and tested custom 3D-printed main and nose landing gear systems with integrated shock absorption, enabling successful taxi and functional steering
- Designed and validated a complete elevon actuation system through kinematic analysis, hinge tensile testing, and wind tunnel testing, ensuring structural integrity under aerodynamic forces

Industrial Manufacturing Engineering Coop**May 2023 – August 2024**

Collins Aerospace (RTX), Oakville, Ontario

- Designed new tooling which were modelled and drawn in Catia V5 for assembly processes increasing the rate of production and reducing process downtime
- Implemented the Power Platform suite of tools to optimize the transfer of production tooling data, improving response time to tool maintenance and inspections
- Systematically identified tooling and production assemblies lacking Catia models, then developed those models to streamline 3D work instruction creation
- Co-led a site-wide lean manufacturing initiative to align tool management policies with real workflows and upcoming software integration, earning a lean/six sigma recognition

ADDITIONAL EXPERIENCE**Co-President and Captain of Design Team****Sept 2022 – May 2024**

Troitsky Bridge Building Competition

- Led a 6-member team in a two-semester national engineering design competition, overseeing concept development, analysis, and fabrication of a popsicle-stick bridge structure in 2023
- Presented engineering rationale and structural analysis to a panel of academics and industry professionals, demonstrating applied mechanics and manufacturing strategies
- Mentored and organized the university-wide team of 39 students; awarded Best Coach and contributed to 13 wins across the delegation at the international competition

Peer Assisted Study Sessions Facilitator**Jan 2023 – Apr 2023, Sep 2024– Dec 2024**

Carleton University – Centre for Student Academic Support

- Designed and facilitated two 80-minutes workshops per week using active learning techniques to summarize course content and reinforce core concepts to students
- Completed formal training in instructional strategies and professional communication skills to effectively support student learning and engagement

Production Operator**Summers of 2020, 2021, and 2022**

Continental Conveyors, Napanee, Ontario

- Assembled high-precision components from engineering drawings to fulfill client orders on time and to specification
- Collaborated on conveyor roll assembly for heavy-duty applications in global mining and materials handling industries
- Improved efficiency by optimizing assembly methods for large-volume orders and quickly resolving production issues to minimize downtime