COSIMO CASOTTO

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My website: https://www.cosimolikesrockets.com/

EDUCATION

GEORGIA INSTITUTE OF TECHNOLOGY, Atlanta, GA | Master's Degree in Aerospace Engineering — Jan 2024 – Present

- GPA: 3.88

UNIVERSITY OF PADOVA, Padova, Italy | Bachelor's Degree in Aerospace Engineering — Sep 2020 – Sep 2023

- Graduation Grade: 110 / 110
- Final Thesis: "Chemical Aspects of Hybrid Rocket Propulsion", Passed with 30 cum Laude. Honor Society

RESEARCH

HIGH-PERFORMANCE COMPUTING LAB, at Georgia Institute of Technology, Atlanta, GA — Nov 2024 – Present

- Conducting **Large Eddy Simulations** (LES) of CO_2 mixing layers under ideal gas conditions using the RAPTOR CFD solver
- **Comparing** turbulent mixing behavior of ideal gases and **supercritical fluids** to identify **compressibility effects** in mixing layers.
- **Publications:** Casotto, C., et al. *Analysis of Thermodynamically Induced Compressibility in Supercritical Mixing Layers*. (Abstract submitted, AIAA SciTech 2025)

PROFESSIONAL EXPERIENCE

INTERN at **NASA Glenn Research Center**, Cleveland, USA — Jun 2025 – Aug 2025

- Worked with the **Propulsion Division** as a **Computational Fluid Dynamics** intern
- Created and validated workflow for analysis of **supersonic inlets**
- Used Engineering Sketch Pad to obtain watertight geometries starting from text files
- Validated NASA's hypersonic CFD solver Vulcan, in a **reacting Hydrogen/air** case, by testing different chemistry models

INTERN at **Rocket Factory Augsburg**, German Startup in Augsburg, Germany — May 2024 – Aug 2024

- Propulsion **Production Engineering**
- Created a new revision of the engine **assembly manual**
- Reviewed traveler steps of 3D printed **engine components**
- Developed and executed checkout procedures (leak checks, P&ID checks, hydrostatic and pressure-drop testing) to support RFA's first launch campaign.
- Investigated alternatives for **U-joints** for future engine gimbaling systems
- Performed hydrostatic and **pressure-drop testing** of engine components

TEST ENGINEER at **Technology for Propulsion and Innovation**, Italian Startup in Monselice, Italy — Jul 2023 – Dec 2023

- Designed **graphite nozzle** to be tested on catalytic section of 7kN hybrid engine
- Researched **materials** and sized screws for hybrid engine
- Designed a spring-loaded mold to cast **fiberglass composite** blocks for in-house thermal protection manufacturing
- Assembled multi-channel data acquisition boxes for tests conducted outside the company's facilities
- Conducted tests on **1 kN and 7 kN hybrid engines** to investigate the performance of different materials (nozzles and thermal protection)

ROCKETRY CLUB EXPERIENCE and LEADERSHIP

MEMBER of **YELLOW JACKETS SPACE PROGRAM** at Georgia Institute of Technology, Atlanta, GA — Jan 2024 – May 2024

- Propulsion team member
- Contributed to testing and optimization of a LOX/Jet-A ablative-cooled liquid engine for sounding rocket program

CO-FOUNDER of **THRUST STUDENT PROJECT** at University of Padova, Italy — Oct 2021 – Dec 2023

- Program: Design and manufacturing of SFRI: Sounding rocket with hybrid propulsion system
- **Led the testing team**
- Tasks: Design of test stand and gas cylinder rotator, Piping and Instrumentation Diagrams, Test Procedures, Test Execution
- Awards: Most innovative project at Italian Space Day 2022

FOUNDER of FISA (Fioi Italian Student Association) at Georgia Institute of Technology, Atlanta, GA — Aug 2024 - Present

SKILLS

- **CAD** and **Technical Drawings**: Siemens NX, SolidWorks, Fusion 360, Autodesk Inventor, Engineering Sketch Pad)
- **Coding** (MATLAB, Python, C++)
- **CFD** (ParaView, tecplot, Linux terminal, Slurm Workload Manager)
- **Testing** and **Manufacturing**: 3D printing, Piping & Instrumentation Diagrams (P&ID), DAQ systems, hydrostatic and pressure-drop testing
- **Languages**: English (bilingual), Italian (bilingual), Spanish (professional)