

Paolo Maselli

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Education

Columbia University (Fu Foundation School of Engineering and Applied Science) Fall 2024 - present

Major: B.S. Mechanical Engineering | Minor: Aerospace Engineering | Intended Graduation: May 2027 | Cumulative GPA: 3.6

Stevens Institute of Technology Fall 2023 - Spring 2024

Major: B.S. Mechanical Engineering | Transferred after two semesters | Cumulative GPA: 3.9

Experience

Columbia Space Initiative Rocketry Team | Responsible Engineer Fall 2024 - present

- Responsible fluids engineer on a team designing and manufacturing fluid systems for a liquid bi-propellant propulsion system including a venturi flow meter, LOX and fuel feed lines, and related GN2 systems.
- Led team that developed oxygen feed system on the 25/26 vehicle including custom check valve, automated fill valve, cryogenic disconnect.
- Designed and manufactured a nitrogen quick disconnect on the 2024/25 vehicle. Contributed to GN2 system architecture.
- Launched 2024/25 rocket with all contributions fully functional. First student led team in the United States to launch a LOX-Hybrid system.

STS Aerospace | Mechanical Engineering Intern June - August 2026

- Organized and defined machining operations in support of a multi-million-dollar investment to shop capability.
- Created, implemented, and automated new processes for best use of robotics to maximize available machine time.
- Designed custom tools and fixtures for various aerospace manufacturing processes, improving production efficiency.
- Collaborated across engineering/design and manufacturing teams to streamline production workflow and improve documentation.

Ball Corporation | Manufacturing Management Intern Summer 2025

- Streamlined and standardized data analysis of performance indicators, changes approved by management and executives.
- Learned and applied skills in data science and industrial engineering at a Fortune 500 company.

Projects (expanded portfolio accessible at paolomaselli.com)

Liquid Oxygen Feed Line | Responsible Engineer Fall 2025 - Spring 2026

- Led a team that developed, fabricated, and rigorously tested a liquid oxygen feed line.
- Conducted research and planning considering material properties, seals, pressure and stresses, available resources, and alternate designs.
- Led design of cryogenic rated custom valves, including a check valve, automatic fill valve, and active quick disconnect system.
- Expanded on prior machining experience by manufacturing precision, LOX-safe parts from steel.
- Verified design functionality via extensive testing and failure analysis. All parts in the fill line functioned completely above 10 testing cycles.

High Pressure Nitrogen Quick Disconnect | Project Owner Fall 2024 - Spring 2025

- Designed, manufactured, and flight-validated a nitrogen quick disconnect system rated to over 4,000 PSI.
- Used CAD software to model complex designs. Iterated on several versions. Conducted formal design reviews before selecting final part.
- Machined a tightly toleranced final product using a CNC lathe and mill. Tested part to verify functionality before use during launch operations.
- Successfully allowed flow of GN2 into the vehicle, disconnected, and re-sealed following launch, resulting in a nominal flight.

Autonomous Robot | Lead Designer Spring 2024

- Designed and assembled an autonomous robot capable of traversing a course independently.
- Modeled and tested several prototypes before selecting a final chassis. Optimized for performance and stability.
- Programmed pathfinding logic in Arduino using a LIDAR map and separate obstacle avoidance loop to ensure no crashes or slowdowns.
- Verified functionality via an initial obstacle course in under 3 minutes, invited to compete at the Stevens Autonomous Robot Competition.

Technical Skills and Certifications

- Lean Six Sigma Yellow Belt.
- CAD, FEA, CFD, Design & Simulation: *SOLIDWORKS*, *Fusion 360*, *Creo*, *Ansys Fluent*, *OpenRocket*.
- Software and Programming: *Python*, *Arduino*, *Excel*.
- Manufacturing: *CNC machining*, *GD&T*, *3D printing*, and *general machine shop proficiency*.