

# Christopher Acosta Calderon

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## EDUCATION

**Columbia University**, School of Engineering and Applied Sciences

**New York, NY**

*Bachelor of Science in Mechanical Engineering*

*Expected May 2025*

- **GPA:** 3.56/4.00
- **Relevant Courses:** Robotics Studio, Mechanics, Computer Graphics & Design, Thermodynamics, C/C++, Fluid Mechanics

## EXPERIENCE

**The Makerspace @ Columbia**

**New York, NY**

*Superuser*

*Feb. 2023 - Present*

- Responsible for instructing new students and Columbia members how to safely operate the machines (3D printer, Laser cutter, Soldering irons, and CNC Lathes and Mills, etc) as well as aiding them with their own personal projects
- Perform general maintenance of machines and equipment and ensure that the space is clean at all times

**Roseburg Forest Products**

**Weldon, NC**

*Mechanical Engineering Intern*

*May. 2023 - Aug. 2023*

- Proficiently designed detailed drawings for essential components of a state-of-the-art sawmill, including log cradles, 90 degree concrete ramps, and conduit placements
- Collaborated with contractors to bring the drawings to life, and decided which quotes are most suitable and cost-effective

**Hyflex Video**

**New York, NY**

*Assistant*

*Mar. 2022 - Aug. 2022*

- Provided technical support for remote learning, including managing Zoom sessions and recording lectures for professors
- Conducted quality control checks on recording equipment to ensure optimal functionality and sanitation

## PROJECTS

**Columbia University Formula Racing (FSAE)**

**New York, NY**

*Member*

*Sept. 2022 - Present*

- Contributed to the collaborative design and production of a Formula 1 electric racing car within an SAE competition team.
- Played a pivotal role on the dynamics subteam, driving the successful development and integration of the vehicle's high-performance hydraulic brake system

**Hydraulic Press**

**New York, NY**

*Project Lead*

*Jul. 2022 - Present*

- Leading the design and fabrication of a compact hydraulic press engineered to achieve a peak operating pressure of 150 psi
- Directly overseeing the precision machining of aluminum hydraulic cylinder, makeshift hydraulic pump, a rotary valve and providing essential structural support for the press

**Self-Balancing Cube**

**New York, NY**

*Co-lead*

*Jul. 2022 - Present*

- Researched reaction wheel technology to engineer a self-balancing system similar to that of Cubli
- Integrating the MPU 6050 sensor, microcontrollers, and precision-machined reaction wheels for the creation dynamic cube capable of maintaining equilibrium on both edges and corners

**Columbia Space Initiative - Rockets**

**New York, NY**

*Member*

*Oct. 2021 - Present*

- Engineered and fabricated an 800 lb thrust hybrid rocket for launch in the Spaceport America Cup Competition
- Manufactured the aluminum injector and retaining components and assisted with the fuel grain and graphite nozzle
- Actively enhancing thrust capabilities and implementing new additions such as continuous venting enhancements

**Quadrupedal Robot (Phage)**

**New York, NY**

*Project Lead*

*Jan. 2023- May 2023*

- Engineered and utilized additive manufacturing techniques to create a fully functional four-legged robot
- Implemented comprehensive programming enabling the robot to achieve speeds of up to 15 cm/sec and perform dynamic maneuvers such as dancing, spinning, and waving

## CERTIFICATIONS

**Level I Machinery Lubrication Technician (MLT1)**

*Aug. 2023 - Present*

- Certified in fundamental lubrication principles encompassing selection, application, storage, contamination control, and comprehensive maintenance practices

## ADDITIONAL INFORMATION

**Technical Skills:** MS Office, Manual/CNC Lathe, CNC Mill, Solidworks, AutoCad, Fusion360, HSMWorks, 3D Print, Laser Cut, Soldering, Ultimaker Cura, Python, C/C++, Matlab, CAD/CAM, Git, LTspice

**Languages:** English/Spanish (Fluent), Beginner Japanese