

Italo Peralta

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EDUCATION

New York University Tandon School of Engineering

Sep 2021 - May 2025

Bachelor of Science in Mechanical Engineering

- Semester Abroad, NYU Buenos Aires in Argentina, 2024
- Semester Abroad, Technical University of Denmark, 2023

NYU GLASS SCHOLAR (Honors Program)

Sep 2022- Present

- Chosen as 1 out of 20 students from 350+ eligible applicants with entry requirements including but not limiting to a 3.5+ GPA
- Awarded \$10,000 annually from the honors program for initiatives aligned with UN Sustainability goals with a focus on wild firefighting

SKILLS

TECHNICAL: MS Suite, Fusion 360, SolidWorks, Catia, Abaqus, ANSYS, MAT/GMC, Siemens NX, DNM, CADRA, MATRIXONE/ENOVIA

NON-TECHNICALS: Sheet Metal, Welding, Laser Cutting, 3D Printing, FAA Approval: Powerplant, Airframe Systems, Troubleshooting

PROGRAMMING: GitLab, Python, MATLAB, HTML, CSS, JavaScript, LaTeX

EXPERIENCE

L'SPACE NASA ACADEMY: Team 23 Engineering Group

Sep 2024 – Dec 2024

- Collaborated with a nationwide multidisciplinary team to design a mission concept proposal focused on lunar cave exploration, submitting the Mission Concept Review (MCR) and the Preliminary Design Review (PDR) at the end of the Program
- Collected all 6 L'SPACE Program Badges, whilst using NX for preliminary CAD designs and Eng. Drawings on the Lunar Rover and Satellite

Lockheed Martin (RMS): Sikorsky UH-60 Propulsion Design Engineer

May 2024 - Aug 2024

- Managed 5 Engineering Changes (ECs), including a critical change in delivery processes, by updating resistance checks and part lists in fuel system drawings using MATRIXONE, DNM, and CADRA in coordination with mechanics and installers ensuring in-line deliveries
- Won **1st Place** for the Intern Competition, led and advocating for and designing the "FireFly", a fixed-wing UAV that monitors wildfires

The Boeing Company: 777-8F Propulsion Engineering

Jun 2023 - Sep 2023

- Participated in the Federal Aviation Administration General Familiarization on the 777x Freighter which commenced the official 777x Timeline
- Contributed to closing Trade Studies on EASA Amdt. 24 safety regulations affecting Propulsion Systems resulting engineering changes (ECs)
- Developed 20 Critical Maintenance Req. (CMRs a guide for proposed) to reduce maintenance schedules for customers like Qatar Airways

UMASS Lowell: Researcher (NSF-NASA Glenn-Airforce Research Laboratory)

Jun 2022 - Sep 2022

- Conducted research using process modeling on composites by using the Finite Element Method to predict thermo-chemical properties of a composite using the *icomp*² framework via Abaqus
- Utilized NASA software such as MAT/GMC to analyze effective properties of a laminate and composite under different loading conditions
- Developed a framework using the Python scripting feature on Abaqus to create randomly generated fibers in a RVE to put under loading conditions for data collection

EXTRACURRICULAR ACTIVITIES

NYU Advance CAD Project

Jan 2024 - May 2024

- Modeled a 1:1 scale replica of HMS Victory 1765 using SolidWorks and conducted Dimension Tolerance Analysis across the Hull and Mast
- Conducted dynamic finite element analysis (FEA) of a cannonball striking an oak hull simulating material properties and impact dynamics to analyze stress displacement over time

NYU Robotics Design Team VIP

Sep 2021 - Jan 2024

- Competed in NASA's mining competition held at the Space Kennedy Center securing 13th place nationally as part of the Mechanical Team
- Designed and manufactured the robot's chassis system, meeting all movement, collection, weight, and terrain traversal requirements
- Applied topological optimization with Fusion 360's ANSYS package to apply weight reductions to the chassis and adjust the COG and system arrangements

PhD Finite Elements using Abaqus (DTU Study Abroad)

Jan 2023 - May 2023

- Designed and analyzed fiber composite structures using Abaqus, specializing in dissecting layups and determining critical ply stresses and strains based on criteria such as different ply orientation angles and boundary conditions
- Created crack-tip models to predict and evaluate analyses, compare simulation results, and validate against real-world solutions
- Using Abaqus back-end script feature with Python created scripts to automate simulation set-ups and data collection, i.e. building the models, creating and setting boundary conditions, and setting up pre/post processing which resulted in huge time savings

Ramboll x CyrusOne Spark Innovation Competition

Sep 2022

- Won **1st Place** and led ideation for my team hosted by Ramboll and CyrusOne, securing third place overall resulting in a \$700 prize
- Proposed using heat waste from data centers for local communities and reducing cooling system reliance with thermal heat generators 3
- The approach supported and improved sustainability in data centers specifically centered towards carbon and heat emissions but also keeping in mind economic feasibility and integration within current data center systems