

Luis Alejandro Rodriguez Arenas

la.rodrigueza12@uniandes.edu.co — +57 3193266341 — Bogotá, Colombia — luigitoby.github.io

Education	Universidad de los Andes , Bogotá, Colombia BS Mechanical Engineering, Minor in Computer Science. GPA: 4.4/5.0	2024–Present
	Universidad Nacional de Colombia , Bogotá, Colombia Undergraduate coursework in Mechatronical Engineering (transferred). GPA: 4.6/5.0	2023
	Colegio San Carlos , Bogotá, Colombia High School Diploma. GPA: 92.0/100.0 SAT scores: 1320 (660 Math, 660 Reading and Writing) Colombia National Exam (ICFES Saber 11): 100%	2017–2023
Projects	Sounding Rocket Development - SpaceTech Rocketry <ul style="list-style-type: none">Led the mechanical design subsystem for a carbon-fiber sounding rocket, integrating recovery and avionics modulesEngineered composite fuselages with carbon/glass-fiber layups, cutting structural weight by 20%Performed tensile testing to validate material properties and simulation results in ANSYSDeveloped CFD and trajectory models to optimize aerodynamics and flight stabilityManaged documentation, manufacturing, and system-level testing Ion Thruster Research Project - SpaceTech Ion Thruster <ul style="list-style-type: none">Worked in electromechanical and thermofluid systemsDeveloped a mathematical model for ion acceleration and charge transportPerformed first-pass calculations for electron mass flow and charge transport behaviorSupported literature review and early-stage design validation High School Robotics Club & Makerspace <ul style="list-style-type: none">Supervised and coached students in robotics and engineering fundamentalsCreated and led the CAD design class initiative for younger studentsManaged and secured funding for the school's first 3D printerCo-founded the school makerspace and guided students in fabrication and prototypingCoordinated the robotics club across multiple grade levels	2024–Present
Skills and interest	CAD Software: OnShape, Inventor, Fusion360, SolidWorks Simulation & Analysis: ANSYS, OpenRocket, Rocksim Programming & Tools: Python, C++, MATLAB, Git Embedded Systems: Arduino, ESP32, Raspberry Pi, Linux environments Languages: Spanish (Native), English (C1), French (B2) Aerospace & Rocketry: Sounding rockets, Ion propulsion Research & Development: Literature review, prototype development Documentation: LaTeX, Markdown, technical writing	2019–2022
Awards	Banco de la República Academic Excellence Scholarship Awarded for one of the highest national Saber 11 scores. Universidad Nacional Academic Excellence Scholarship Recognized among top high school graduates nationwide. IOAA 2022 – International Olympiad on Astronomy and Astrophysics Represented Colombia in the international event held in Kutaisi, Georgia. OLAA 2020 – Latin American Astronomy Olympiad Participated in the Latin American Astronomy Olympiad representing Colombia.	2024 2023 2022 2020