

# Luis Alejandro Rodriguez Arenas

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