



# Alfredo Lavin Orejas

Place of birth: Oviedo (Spain)

Date of birth: 10<sup>th</sup> April 2003

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📄 alfredo-lavin

## EDUCATION

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- **University of Bristol - 3<sup>rd</sup> Year student of MEng Aerospace Engineering** Sep 2021 - Jun 2025  
*Interested in Space Systems, Robotics and Research in Innovative Projects.*
  - In Year 2 every module was passed with a grade over 70
- **English School of Asturias - Secondary education** Sep 2006 - Jun 2021  
*International A-levels: Maths A\*, Further Maths A\*, Physics A\*, Spanish A\*, French B*

## PROJECTS

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- **Research Project** 2023-2024  
*Power Optimal Transmission in Eccentric Orbits for Space-Based Solar Power*
  - My Research Project analyses a Space Solar Power Satellite concept from CalTech academic institution, where by means of orbital mechanics, I am investigating the type of orbit that would make the power transmission most efficient to an energy receiving station in the Earth. In particular, I have focused on analyzing how the eccentricity of the orbit could influence the transmission of energy to the Earth.
  - Supervised by Dr Rainer Groh (UoB) and Catapult (Harwell Campus)
  - Tools & technologies used: Python and STK
- **Two Body Problem** 1<sup>st</sup> trimester of 2023  
*Analysing different numerical integrators by simulating the path of both bodies that attract each other*
  - Simulation of two planets orbiting each other under the influence of each other's gravitational force
  - Tools & technologies used: Python
- **My personal webpage (designed and programmed by myself)** Jan 2022 - ongoing  
*<https://www.alfredolavin.com/>*
  - Tools & technologies used: HTML, Javascript, CSS

## EXPERIENCE

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- **Bristol SEDS - Race2Space** Oct 2023 - ongoing  
*Team Member* Bristol
  - Involved in programming control algorithms to validate the modelling of the bi-propellant liquid rocket engine design, and used ultrasonic sensors to develop a circuit for measuring the fuel levels in the tanks.
- **Bristol Composite Institute - Kirigami Mechanics** Jun 2023 - Jul 2023  
*Research Project Intern* Bristol
  - Investigating the different types of buckling loads when a material with a Kirigami pattern is under tension. The aim was to set in stone an experimental procedure that can be repeated many times by future researchers.
  - Assessing and validating literature review based on Kirigami.
  - Laboratory experience with tensile machines (Shimadzu), laser cutting, rotary blade cutting and video gauge.

## TECHNICAL SKILLS AND INTERESTS

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**Languages:** Spanish (mother tongue), English (Fluent), French (Intermediate)

**Developer tools:** Python, STK, MATLAB, Simulink, Fusion 360 (CAD), HTML, CSS

**Areas of Interest:** Robotics, Space Mission Analysis & orbital mechanics, Space projects: tools for simulation

## ACHIEVEMENTS

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- **Awardee of The Think Big Undergraduate Scholarship by the University of Bristol** 2021 - 2025
- **Bristol PLUS Award** 2023
  - An award that recognises the professional skills I gained throughout my work experience at the Bristol Composites Institute along with the Innovation and Enterprise course by FutureLearn and the engineering online courses which enhanced my programming abilities

## POSITIONS OF RESPONSIBILITY

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- **Co-Founder and Social Media Secretary, University of Bristol Padel Society** Sep 2022 - ongoing

*References available upon request*