

Daniel Carrasco García

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ABOUT MYSELF

Computer Engineering student and dedicated space systems enthusiast with a proven track record in leading complex suborbital missions. By engineering functional LoRa communication links for CanSat and CubeSat and designing hardware that successfully operated during stratospheric launches at 45,000 meters, I have developed a deep-rooted commitment to technical rigor and system reliability. Beyond the lab, I leverage my engineering skills to create social impact through volunteering at the 'Por Una Sonrisa' Foundation (Children and teenagers with cancer support), bridging technology with emotional support. My entire technical journey, including detailed system architectures and international award-winning projects, is documented in my portfolio: danielcarrascogarcia.me. I am now focused on mastering spacecraft AIT and environmental testing protocols to meet the highest professional standards of the European space sector.

EDUCATION & TRAINING

Bachelor's Degree in Computer Engineering

Universidad de Málaga (UMA) [01/09/2024 - Current]

City: Málaga | **Country:** Spain

Level in EQF: 6

Focus on Core Engineering (Calculus, Physics, Linear Algebra) and Embedded Systems, specializing in PCB prototyping and microcontroller architectures. Expertise in RF & Wireless Communications using LoRa and Signal Processing, alongside a deep understanding of Systems Integration and communication protocols like I2C, SPI, and UART. The curriculum also covers algorithmic optimization, control systems, and low-level programming using RISC-V/Assembly and C/C++. Highly proficient in LaTeX for drafting professional technical reports and documentation according to aerospace engineering standards.

Technological Baccalaureate

IES Kursaal [01/09/2018 - 06/06/2024]

City: Algeciras | **Country:** Spain

Final grade: 9.88 (Academic Excellence) | **Level in EQF:** 4

SKILLS

Programming

Python, C++, Java, C, RISC-V, Assembly, Bash

Communications, RF and Embedded Systems

LoRa, RF Link Design, Link Budget Analysis | I2C, SPI, UART, Microcontroller Architecture, PCB Prototyping

Tools

LaTeX, KiCad, GNU Radio, Arduino IDE, Visual Studio Code

HONOURS AND AWARDS

[19/03/2021] SOLACYT

International Platinum Medal – Infomatrix Iberoamérica Maximum technical award in the Ibero-American science and technology finals.

[25/06/2022] University of Cádiz (UCA)

UCA Excellence Scholarship Awarded by the University of Cádiz for outstanding academic and technical potential.

[29/10/2022] Ministerio de Ciencia, Innovación y Universidades

2nd Prize – STEAM "Ciencia en Acción" National Championship in the Spanish competition for pre-university scientific research projects

[12/09/2023] IES David Bujan

Three Times Winner – Open Science Cambre

[29/10/2023] Ministerio de Ciencia, Innovación y Universidades

1st Prize (National) – Astronomy "Ciencia en Acción" National Championship in the Spanish competition for pre-university scientific research projects. National recognition for innovative research in the field of astronomy.

[18/05/2024] European Union

2nd Prize (International) – Catch a Star (EAAE) Awarded by the European Association for Astronomy Education for excellence in astronomical research.

[30/11/2024] Oracle

3rd Prize – Oracle Challenge "Summer Hit Song 2025" Developed an AI-driven model to analyze musical patterns and predict future summer hits, focusing on trend forecasting and data-driven insights.

LANGUAGE SKILLS

Mother tongue(s): Spanish

English

LISTENING: C2 READING: C1 WRITING: C2

SPOKEN PRODUCTION: C1

SPOKEN INTERACTION: C1

PROJECTS

[15/07/2025 - Current]

K-Sat (Málaga Space Team) Mission Overview: K-Sat represents the Málaga Space Team's flagship initiative to develop a modular 1U CubeSat platform. The mission serves as a technological demonstrator for low-power, long-range communication architectures and modular payload integration, designed to provide a reliable framework for future university-led orbital experiments.

Key Contributions:

- **RF Subsystem Architecture:** Spearheaded the design and implementation of the satellite's communication link, specifically leveraging LoRa modulation to achieve high-reliability, long-distance data transmission with minimal power consumption.
- **Functional Verification & Testing:** Designed and executed a series of rigorous functional test benches to validate subsystem performance under simulated operational conditions, focusing on link stability and data integrity.
- **Link Budget & Technical Reporting:** Conducted comprehensive link budget analyses and authored high-standard technical documentation using LaTeX, ensuring that all verification phases met professional aerospace reporting requirements.

[01/09/2022 - 06/06/2024]

Kursaatélite Mission Overview: was a comprehensive aerospace research program focused on exploring the suborbital and near-space environments. This project integrated the development of experimental atmospheric probes (CanSat Esero) and high-altitude balloon payloads (Project Servet), successfully reaching altitudes of 45,000 meters to conduct environmental data acquisition and technical demonstrations.

Key Contributions:

- **Sole Engineering Lead:** Managed the entire technical lifecycle of the mission for two consecutive years, serving as the only person responsible for hardware architecture, system integration, and flight operations.
- **Near-Space Communication Link:** Engineered and deployed a robust LoRa-based telemetry system, ensuring continuous data transmission and link reliability during stratospheric ascents under extreme conditions.
- **Environmental Survivability & Testing:** Designed and validated hardware enclosures and electronics to survive the harsh stratospheric environment, including temperatures as low as -50°C and near-vacuum pressures.
- **Post-Flight Data Analysis:** Conducted comprehensive processing of flight data to validate sensor accuracy and atmospheric models, documenting all findings in rigorous technical reports.

[01/09/2023 - 06/06/2024]

KursaalMars (Catch a Star Program) Mission Overview: KursaalMars focused on the investigation of Martian habitability and the challenges of future space exploration. The project integrated environmental simulations, radiation measurements, and biological research to evaluate the viability of human life on Mars, earning prestigious recognition at both national and international levels.

Key Contributions/Benefits:

- **Martian Habitability & Biological Research:** Analyzed human physiological needs and the potential use of plant-based materials for extraterrestrial construction and life support systems.
- **Structural Design & Systems Automation:** Designed the structural architecture of the base and implemented electronic components to automate critical entry and monitoring systems.
- **Environmental & Radiation Analysis:** Investigated the impact of radiation and atmospheric conditions on human health and mission hardware within simulated space environments.
- **National & International Excellence:** Awarded **National Champion of Spain** and **2nd Place in Europe** (EAAE Catch a Star), demonstrating high scientific rigor and innovative technical execution.