

Internship Opportunity – 4 to 6 months

Title: Electronics Design Intern for IonSat Project

Are you passionate about electronics design and interested in contributing to a cutting-edge satellite project? Join our team as an Electronics Design Intern for the IonSat project and gain hands-on experience in designing crucial components for a real-world space mission.

Project Overview:

IonSat is a CubeSat project undertaken by our team in the CSEP (Polytechnique's Space Center), aimed at demonstrating advanced satellite technologies in a Low Earth Orbit environment. As an Electronics Design Intern, you will play a pivotal role in designing an interface board that handles both power distribution and data communication, ensuring the smooth operation of various satellite subsystems.

Internship Description:

As an Electronics Design Intern at CSEP, your primary responsibility will be to design an innovative interface board for power lines within the IonSat satellite and interfacing different subsystems within it. This board will act as a central hub, facilitating the efficient distribution of power from the onboard power system to different satellite components while also enabling seamless communication between subsystems.

Key Responsibilities:

- Collaborate with CSEP engineers to understand the specific requirements of the interface board.
- Design the schematic and layout of the interface board using industry-standard Electronic Design Automation (EDA) tools.
- Ensure the board design complies with space-grade specifications, considering factors such as radiation hardening, thermal management, and electromagnetic compatibility.
- Select appropriate components and connectors for the board, ensuring compatibility and reliability in space conditions.
- Knowledge of electronics and ability to work with measurement instruments (multimeter, oscilloscope, signal generator, power supplies, vector network analyzer, etc.).
- Electrical parameters measurement: Current, Power, efficiencies.
- Work closely with the broader IonSat team to integrate the interface board into the satellite's overall architecture.
- Test and validate the functionality of the board through simulations and practical experiments.
- Collaborate with other interns and team members to share insights and contribute to the overall success of the project.

Qualifications:

- Enrolled in a relevant engineering or electronics program at university level.
- Strong understanding of electronics design principles, circuit analysis, and PCB layout.
- Proficiency in using EDA software (such as Altium Designer or KiCad) for schematic capture and PCB design.
- Familiarity with space-grade components, radiation hardening techniques, and aerospace design standards is a plus.
- Problem-solving skills and attention to detail in ensuring the reliability of the board design.
- Good soldering skills are a plus.
- Effective communication skills to collaborate with team members and present design concepts.

Duration:

This internship position is for 4 to 6 months, starting from September/October 2023.

How to Apply:

Interested candidates are invited to submit their resumes and a brief cover letter detailing their motivation to:

Ricardo Colpari colpari@lpp.polytechnique.fr

Luca Bucciattini luca.bucciattini@polytechnique.edu

Please include "Electronics Design Intern Application - IonSat Project" in the subject line.

Join us in shaping the future of satellite technology and gaining valuable experience in electronics design within the dynamic environment of the IonSat project!