

File name: CSUM-M-RH-PROP\_GSEG\_Eng\_v1.0.0  
Author: DUARTE Rafael



# JOB OFFER

**Title: Ground Segment Engineer**

## 1 UNIVERSITY SPACE CENTER OF MONTPELLIER

The University Space Center of Montpellier (CSUM) is the French leader in the development and operation of nanosatellites developed by students. It has acquired in-depth competences in the field of design, manufacturing, testing and operation of nanosatellites and their subsystems, as well as in the area of space project management and product assurance in the framework of university space projects. The CSUM has an AIT (Assembly Integration and Test) Facility, a CDF (Concurrent Design Facility) and both UHF and S-band Ground Stations. The CSUM develops its own 1U and 3U CubeSat nanosatellite platforms with the support of the Van Allen Foundation and both the French and the European space agencies.

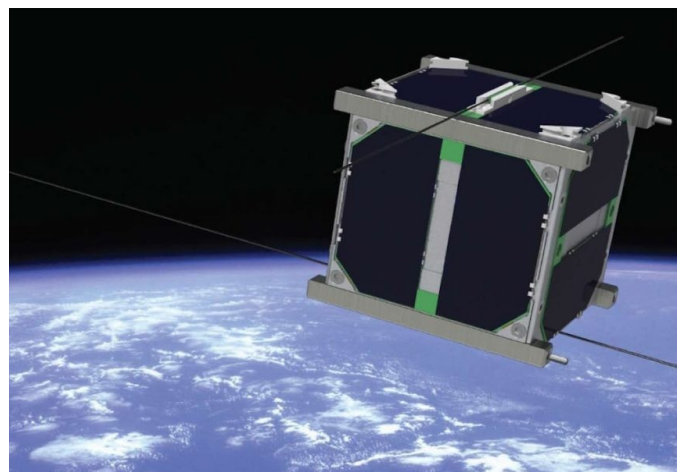
## 2 JOB DESCRIPTION

We are looking for an engineer with a broad skillset to cover the development and validation of CSUM's Ground Segment, with an emphasis on software development and telecommunications skills.

You will be joining CSUM's core team in Montpellier (France) and will be responsible to develop the software that will be part of both our satellite missions and ground station. The work involves tight interaction with the satellite development team and mission operations to devise software modules to receive/transmit and decode/encode satellite data. The work will also include the development of the software interfaces that are part of our Mission Control Center.

Experience with software development is a must. Knowledge about signal processing, data encoding/decoding is a big plus.

At CSUM, we speak English, but if you speak French, that is a bonus!



### Main Tasks:

- Architect, design and implementation of software modules for ground to space communication systems ;
- Development of Web Applications for implementing the Mission Control Center of CSUM missions.

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- Responsible for planning and implementing agreed test strategies during development.
- Conception and definition of test procedures, test plans and test strategies in alignment with design.
- Creation and execution of tests on demand from analysis, requirements.
- Provide design feedback according to testing results.
- Provide support to the satellite operations and design team.

**Skills, attitude and experience:**

- Advanced programming skills in Python.
- Proficiency with GIT.
- Experience in software studies, architecture, development, validation.
- Basic software development skills for signal processing applications.

**Bonus Skills:**

- Experience with Django web development framework (back and frontend) ;
- Experience with Software-Defined Radio development tools such as Gnuradio ;
- Experience with continuous integration and unit testing tools ;
- Familiarity with communications protocols used in small satellites: CSP (Cubesat Space Protocol), CCSDS, AX25 ;
- Proficiency with Linux-based systems ;

**Location:** Montpellier - France

**Preferred starting date:** As soon as possible

**Duration:** 1 year (CDD)

**Supervisor, Function at CSUM:** Rafael Duarte – Technical Director

### 3 CONTACT

Please upload your application at <https://csum.umontpellier.fr/en/job-offers-internship/>