



Embedded software engineer (F/M)



Université Grenoble Alpes carries the IDEX project and gathers all the public higher education structures in Grenoble - Alpes area.



60 000 students

7 500 employees

109 research laboratories



www.univ-grenoble-alpes.fr

Fixed-term contract (1 year, renewable)

Full time

Job level : Research and Development Engineer (A – IGR)

Starting date : September 2020

Location :

**122 rue de la Piscine
38400 Saint-Martin-d'Hères**

Structure description

Grenoble University Space Centre (CSUG) aims to become a key player in the development of miniaturised space instruments in France and in Europe. It is positioned as an educational platform for science and technology, striving to promote interaction between research, industry and education players.

Centred around innovative technological projects with identified scientific opportunities, the CSUG takes an original approach to university education, teaching students from the Université Grenoble Alpes and Grenoble INP about space through project-based learning.

The **project QlevEr Sat** is developed by the CSUG and supported by Teledyne-E2V, to test an industrial imager for Earth Observation and a dedicated processor, an AI layer for the detection of various Earth phenomena as flooding, wild fire, traffic monitoring and so on. Such an architecture allow to drastically reduce the amount of data transmitted to the ground. The imager will allow to have a ground based resolution of 10 m with a swath of 18 km. It will be embedded on a cubesat (Target 3U). The AI development will be driven by the MIAI institute and included in the AI for Earth observation program driven by Jocelyn Chanussot.

The project will be developed in two main phases, the first one in 2020 consisting to the phases O/A/B, ie. the preliminary analysis and definition phases of a space project.

Missions

The position consists in designing the embedded software in collaboration with the electronics architect, which will be adapted to both the imaging detector (Proximity electronics) and the mother card for the processor. The engineer will join the electronics pool of the CSUG (2 pers in 2020) and will work in collaboration with the CEDMS (Centre d'Enseignement de de Développement pour le Montage en Surface) of the IUT1 and if needed with the CIME (Centre Universitaire de Microélectronique et Nanotechnologies) technological platform.

Contacts

If you have questions regarding the position, you may contact Mathieu BARTHELEMY, director of the CSUG, by mail: mathieu.barthelemy@univ-grenoble-alpes.fr.

Main activities:

- Embedded software design
- Design of the interface with the imager electronic card and the processor motherboard card
- Supervise the embedded software architecture
- Supervise the dedicated tests,
- Design and build a representative engineering model in collaboration with the optical team.

Supervisory mission :

The engineer could possibly supervise students.

Expected skills:

- Experience in driver development, linux kernel module programming and real time computing are essential,
- C programming on embedded systems is required,
- Knowledge of ARM architecture is recommended,
- Knowledge of FPGA and VHDL, knowledge of spatial electronics would be a plus,
- Language skills :
 - English is mandatory,
 - French would be appreciated.
- Autonomy and ability for multidisciplinary team work.

Qualifications:

PhD or engineering degree.

Young profiles (just leaving engineering schools or defending their PhD) are accepted.

Compensation and benefits :

Wage : gross monthly salary starting from 1930€ and depending on the candidate's experience,



Social benefits

- Extra-curricular services
- Holiday vouchers, subsidized restaurants, CESU
- CAESUG



Work & private life balance

- Paid leaves: 45 day / year jours, ≠ work hours arrangements, possibility of teleworking
- Engagement policy (QWL, disability handicap, diversity, parity)



Staff support

- Internal staff mobility
- Individual support: trainings, support for the preparation of competitive examinations, coaching



Dynamic campus

- Sport facilities
- Cultural and artistic activities
- Unique work environment
- Ease of accessibility

How to apply to this position :

Send your application, merged into a single pdf file, to csugcontact@univ-grenoble-alpes.fr and mathieu.barthelemy@univ-grenoble-alpes.fr at the latest on 30/06/2020.

The application should include :

- A curriculum vitae,
- A cover letter,
- Names and contact details of several professional references who could be contacted.