TRAINING PERIOD 2018
Products software development for image satellite processing

Training title: Products software development for image satellite processing
Field: Operations and R&D
Speciality: Software development

Subject

The scope of the sensor processing chain department activities is extended from R&D to development of image processing operational ground segments.

The team is in charge of developing and delivering our software products for massive data processing and management. Our systems are deployed over several tens of sites all over the world. They provide high level of operational performance (ergonomy, automation, availability, inter-operability, maintainability) and of size-ability (data volume, computing capability, timeliness).

A large panel of software technologies are involved with languages (Java EE, Python, C++, XML), frameworks (VM, Docker, OpenStack, Jenkins, GIT, cloud computing) and process (continuous integration, agile method).

A system is built with many software components and requires to be validated often in different contexts (configuration, OS, data …).

The candidate(s) will join our development team to work on one of the three subjects below:

DevOps - Continuous integration of image processing products
- The improvement of our continuous integration in coordination with a DevOps. For example, OpenStack associated with a private cloud bring us new functions and more capacity.
- The trainee shall have a solid computer programming skills (Java, Python, continuous integration).

Conception and development of system content visualizing tools
- Development of a tool to visualize system content. The internship will require collecting and analysing the team need, the conception of tools to answer the needs and develop them. (Python, Jenkins, Docker, OpenStack, continuous integration).
- The trainee shall have solid computer programming skills (Java, Python, XML).

Web component for 3D visualization
- Development of an interactive web component which is able to display a virtual globe with layers of business data. The internship will require collecting and analysing the team need, designing the web component to answer the needs and develop it.
- The trainee shall have solid web application programming skills (JS/TS, npm, Angular2)

Depending on the planning of the internship, the contents may be adapted to be as interesting as possible.

AIRBUS
DEFENCE & SPACE

Company background

The Space System business line of Airbus Defence & Space is the European leader in the field of optical Earth Observation systems. The company, through is history, is a pioneer of space industry, responsible for the development of the first Earth Observation space systems in Europe, starting with the SPOT family. Since this time, the company has led the major European developments in the fields, through programs such as METOP, ERS, ENVISAT, HELIOS, PLEIADES or SPOT6. This experience developed is now applied on export turn-key programs such as FORMOSAT, THEOS, ALSAT, CHILI, KazEOSat-1 or PeruSat, involving up to sub metric resolution systems, or such as COMS, a geostationary meteorological satellite for Korea.

This evolution conveyed Airbus Defence & Space to develop a strong expertise in Image Quality, Image Processing and Image Simulation through a group of about 80 engineers in 2017, constituting the Sensor Processing Chain department (TESUI). The Image team carries out activities in fundamental image domains such as image simulation, ground processing, image quality, in-orbit testing, embedded processing, vision-based navigation, deep learning and dedicated R&D activities.

Required knowledge
- Generic knowledge in software development and continuous integration
- Python, JAVA, OpenStack, Docker; Windows & Linux OS
- JS/TS, npm, Angular2, Linux

Desired education
- Engineering school or Master, with specialisation in software development.

Training period length: **5 to 6 months in 2018**
+ Possibility of a one year internship.

Location	Airbus Defence & Space – Space Systems
	31 rue des cosmonautes 31402 **Toulouse** Cedex 4, **France**
Unit	TESUI – Sensor Processing Chain department
Deadline	15/12/2017
Contact	stages-image-airbus@airbus.com