TRAINING PERIOD 2019
Image processing for space applications

REF: 10424050

Training title: *Satellite image performance*
Field: Operations and R&D
Speciality: Image processing

Subject

Image performance is the key components of the acquisition chain for observation missions and planetary exploration missions. Needs in processing are of various types: restoration, registration, image fusion, tracking, navigation, image simulation…

The training period will consist in developing and testing new algorithms in one of the above-cited domain within the Space System business line of Airbus Defence & Space. The subject will be more precisely defined during the interview, depending first, on the different studies of the image department and second, on the aspirations of the candidate.

The subjects already identified this year are in the following themes:
- In-flight imaging performance verification tools
- Image quality (blur, noise) quantified criteria
- Generation of a reference image based on Sentinel2 data

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

The trainee shall have both a solid image processing background and computer programming skills (Matlab and/or C/C++).

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 Image 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.

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Required knowledge
- Generic knowledge in image processing as well as numerical analysis,
- Matlab or C/C++; Windows & Linux OS

Desired education
- Engineering school or Master, with specialisation in signal and image processing, or applied mathematics.

Training period length: **5 to 6 months in 2019**
                        + 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	15/12/2018
Contact	stages-image-airbus@airbus.com