

The all-you-can-see Earth Observation visualisation framework

Code: 21/55

Company: Assimila Ltd

Location: Reading, UK / remote

Company Description:

Assimila is a specialist Earth observation applications development and consultancy SME based in Reading. We work with clients to identify how their needs for environmental information can be met using Earth Observation (EO) data. We work with Universities in the UK and abroad to incorporate the latest research into our work. We take a physical approach to EO data interpretation, using radiative transfer modelling and data assimilation techniques to derive quantitative information describing the land surface and its vegetation cover. We also make extensive use of meteorological and climate data, integrating it with EO data and models.

One of our main applications areas is the generation of Analysis Ready Data (ARD) to allow the continuous assessment of land surface processes. We use extensively Sentinel-1 and Sentinel-2 data to generate ARDs for different ecosystems in the world from coffee plantations in Colombia and Indonesia to agricultural areas in the UK.

Project Description:

The all-you-can-see Earth Observation visualisation framework main goal is to generate consistent land surface spatio-temporal datasets using mainly Sentinel-2 data. This involves first removing atmospheric effects, and cloud and cloud shadows in individual scenes. Then using these scenes, a temporal aggregation e.g. monthly, seasonal or annual can be applied.

Depending on the application a resampling might be required to go from the native Sentinel-2 10m spatial resolution to for instance 30m to match Landsat-8 resolution. The framework will acquire Sentinel-2 data from the Copernicus Open Access Hub and the Google Earth Engine.

The successful applicant together with Assimila scientists will help to i) develop an automated acquisition system to download and pre-process Sentinel-2 data, ii) generate spatio-temporal datasets using different aggregation techniques, resampling methods and spectral band combinations for different applications iii) develop a web visualisation framework to display the generated ARD products. All tasks will involve some software development in Python and JavaScript as well as data visualisation and data management.

Applicant Specification:

This placement will suit a student or recent graduate who has wishes to gain further experience in Earth observation data processing as well as software development. Academic: Studying for or completed a degree in computing, mathematics or physical science or geography with some experience in software development.

Minimum Requirements:

- Software development experience in Python.
- Willingness to learn and apply new skills.
- Able to work independently.

Preferred Additional Requirements:

- Earth observation data processing and visualisation
- Google Earth Engine
- Anaconda Python distribution

Further details:

8 weeks minimum fixed term contract to be agreed with successful candidate. Virtual Induction Event to be held on 21 June 2021. Ideally to complete before the start of the next academic year. Salary is £1,500 per calendar month gross.

Closing Date for Applications: 5pm Friday 11 June 2021

Applications should be made through the online form on the Satellite Applications Catapult website before the closing date.

<https://sa.catapult.org.uk/work-with-us/space-placements-industry-spin/>

Please note that elements of the form left incomplete will be deemed to render the application ineligible. They will be checked for eligibility and forwarded to the employer. Email applications made to the Satellite Applications Catapult, UK Space Agency, or host organisations will not be processed.