

Geospatial image processing engineer

Employer	<p>The UMR ESPACE-DEV laboratory carries out research on the spatial and temporal dynamics characterising relations between ecosystems and societies. The UMR bases its research on a network of partnership among centres specialising in remote sensing using platforms that receive and process satellite images.</p> <div style="text-align: center;">  </div>
Location	Maison de la Télédétection Montpellier, France
Level	Research Engineer
Rate	Full time – 28-30 months (depending on experience)
Salary	Between 2500-3000€ per month (depending on experience)
Context	<p>The European project PHIDIAS (Prototype HPC / Data infrastructure for on-demand services) aims to develop and implement a set of interdisciplinary services and tools based on High Performance Computing (HPC). These services will provide FAIR (Findable, Accessible, Interoperable, Reusable) data access as well as on-demand services: from basic data processing (discovery, visualization, extraction) to advanced processing based on Artificial Intelligence and relying on HPC.</p> <p>UMR ESPACE-DEV is coordinating the Work Package 5 (WP5), applied to the processing of Earth observation data. The WP5 aims to offer on-demand processing services on very large collections of high and very high resolution optical and/or radar satellite images (SENTINEL 1 and 2, SPOT, PLEIADES) with new hardware computing architectures provided by the project partners.</p>

Mission	<p>Within the WP5 "Big data Earth Observations: processing on-demand and products dissemination for environmental monitoring", the engineer will develop the remote sensing image processing service platform. The images processing applications result from the work of scientists at THEIA land data center, and take advantage of state-of-the-art approaches in fields such as machine learning, computer vision and signal processing. They are applied on large volumes of heterogeneous data: optical images, radar, time series, ground truth databases. The engineer will contribute to algorithms, applications, and their operational deployment on HPC architectures and integration into on-demand processing services. This work will rely on specialized open-source libraries and will be shared with the Earth Observation and Remote Sensing community. This mission will be carried out in close collaboration with researchers and engineers from UMR ESPACE-DEV and TETIS lab, who designed the applications. The engineer will also take part in the follow-up and feedback of the work of WP5 of the PHIDIAS project.</p>
Activity	<ul style="list-style-type: none"> - Contribute to the development of remote sensing image processing applications and the platform integrating them, work with specialized open-source geospatial libraries, - Propose and implement solutions related to the deployment and management of processes in an HPC environment in collaboration with CINES (National Computing Center for Higher Education) engineers, - Monitor the achievements of WP5 of the PHIDIAS project with public and private partners.
Skills	<ul style="list-style-type: none"> - Programming languages C++ and python, git, - Knowledge in geospatial data and applications would be desirable, - Knowledge in machine learning, computer vision, signal processing, - Knowledge in the following technologies would be advantageous: continuous integration, containerization, deployment, schedulers (e.g. slurm), - Knowledge of the Orféo ToolBox library would be advantageous.
Mandatory degree	<p>One of the following: Master or PhD in informatics or in signal/image processing/geomatics, Engineering degree</p>
Contact	<p>Please submit your appliance to: <i>jean-christophe.desconnets@ird.fr</i> <i>remi.cresson@inrae.fr</i></p>