Outliers removal in samples for water detection: managing clouds and sunglint

Welcome to ICube,

Created in 2013, the laboratory brings together researchers from the University of Strasbourg, the CNRS (French National Center for Scientific Research), the ENGEES and INSA of Strasbourg in the fields of engineering and computer science, with imaging as the unifying theme.

With around 650 members, ICube is a major driving force for research in Strasbourg whose main areas of application are biomedical engineering and sustainable development.

SERTIT, a service platform of ICube, known for its ISO certified rapid mapping service, is seeking to accelerate its automatic mapping activities. This service assists in post-crisis emergency management.
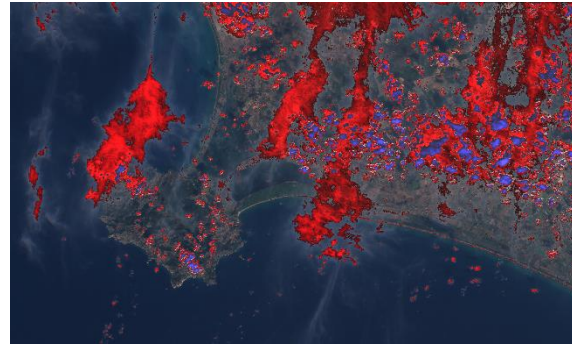
Organized horizontally, SERTIT operates with a people centric approach, which fosters a friendly community and culture. Join us to be part of our mission to put satellite imagery in service of those in need.

Mission

- Collaborate with the SERTIT team to propose and code a sunglint detector or sunglint probability warning
- Collaborate with the SERTIT team to propose and code a refinement to the existing cloud detector:
  - Handle more sensors
  - Refine the existing code
- If possible, propose a Machine Learning approach for cloud detection
- Evaluate the thematic performance of the methods and algorithms over different sensor classes
  - With/without SWIR channels,
  - According to the resolution, …

| Sunglint | Cloud detection |

Role

- Bibliography for sunglint and cloud detection
- Implement a sunglint alarm system
- Analyze and refine the workflow for cloud detection
- Propose a cloud detector based on Machine Learning
- Validate the chain over selected lakes/reservoirs.

Skills

Must have:

- Experience in optical remote sensing
- Experience in GIS, spatial analysis with QGIS and/or ArcGIS
- Experience in software development and scripting (Python)
- Have excellent communication skills and a strong team player
- Good knowledge of English, French is not mandatory
- Can-do attitude!

Nice to have or interested in learning:

- Knowledge of High Resolution (Sentinel-2, Landsat, Planet) products
- Notions in Machine Learning

Profile

- Undergraduate student of a remote sensing/geomatics degree or similar

Benefit

- Work Placement Allowance: 550 € / month

Some press about us:

[Who is SERTIT ?](#) (Youtube video)

Join Us:

To apply, send us an email to dev-sertit@unistra.fr, be sure to include your C.V. and a cover letter to let us know why you think you would be a good fit.

DURATION and STARTING DATE: 6 months starting at spring/summer 2023

LOCATION: Strasbourg, France