

Sentinel-1 SAR Forest Disturbance Mapping

Code: 18/50

Company: Carbomap Ltd.

Location: Edinburgh

Company Description:

Carbomap are forest mapping specialists. We apply state-of-the-art remote sensing to the problem of measuring and mapping the world's forest carbon. Originally spinning out of the University of Edinburgh back in 2013, we have taken academic research and have been successfully applying it within a commercial context for 5 years, currently working with companies such as Ecomertrica, Geocento, Satellite Applications Catapult.

Carbomap have an international reputation in all kinds of 3D remote sensing methodologies, from lidar to satellite radar, and use them for measuring forest structure, forest loss and carbon sequestration. We have worked with government agencies, NGO's and research institutes.

Project Description:

The applicant will undertake work building on our existing (successful) Sentinel-1 radar coherence and intensity workflow for identifying change in forest environments that was developed as part of a commercial contract for the Scottish Government. The applicant will create a map-based query page that requests forest loss maps, and automatically links to our SNAP-based workflow for processing Sentinel-1 radar imagery. To achieve this they will work with other staff who are currently developing an automated workflow for Analysis Read Data using SNAP. The key technical challenge is the linking of the map-based query with the automated workflow.

Applicant Specification:

We require a candidate with at least a BSc or MSc in a relevant numeric discipline, or in an applied area such as Remote Sensing or GIS.

We require the student to have expertise in web mapping, with experience in the downloading, processing, and analysis of satellite image data. Experience in the use of radar datasets, Sentinel-1 in particular, would also be of benefit, as would specific experience with using webmap tools such as geoJson.io or .net, Mapbox, etc.

The applicant will need to have skills in the writing of Python scripts, and also to feel comfortable reading and understanding code, or quickly learning using online resources, in other languages (e.g. R) without needing to actually write any code.

Some experience of the use of remote sensing data within vegetation and forest environments would also be of benefit, along with some understanding of the types of change that forests undergo and how they manifest themselves.

The student must be able to work independently with little supervision and to manage their own workload. Carbomap are a small but busy team so self-management will be important, although weekly regular meetings will take place with all the team.

The student must have good communication skills for liaising with the rest of the team because, although they will be working on their project independently, they will be expected to utilise the skills and experience of the team to help them achieve the goals of the project either by asking questions or for seeking advice.

The student must have excellent written and spoken English but additional languages will be seen as a bonus, in particular Spanish.

Minimum Requirements:

- BSc or MSc in a relevant numeric discipline, or in an applied area such as Remote Sensing or GIS.
- Expertise in web mapping, with experience in the downloading, processing, and analysis of satellite image data.
- Skills in the writing of Python scripts
- Feel comfortable reading and understanding code, or quickly learning using online resources, in other languages (e.g. R) without needing to actually write any code.
- Must be able to work independently with little supervision and to manage their own workload.
- Good communication skills for liaising with the rest of the team
- Must have excellent written and spoken English

Preferred Additional Requirements:

- Experience in the use of radar datasets, Sentinel-1 in particular, would also be of benefit
- Experience with using webmap tools such as geoJson.io or .net, Mapbox, etc.
- Skills in writing of R and IDL scripts
- Some experience of the use of remote sensing data within vegetation and forest environments
- Some understanding of the types of change that forests undergo and how they manifest themselves.
- Additional languages will be seen as a bonus, in particular Spanish



Further details:

8 weeks fixed term contract to be agreed with successful candidate with a completion at latest by 28 Feb, 2019. Salary is £1,500 per calendar month.

Closing Date for Applications:

28 November 2018 Applications should be made through the online form attaching a CV, before the closing date. 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