18:09: Evaluating the Interoperability of Analysis Ready Data over the UK

Company: Satellite Applications Catapult

Supervisor: Daniel Wicks

Location: Harwell Campus

Company Description:
The Satellite Applications Catapult is a not-for-profit company and one of a network of centres established by Innovate UK to accelerate the take up of emerging technologies. The Catapult is transforming the way the world uses satellite technology, enabling new business and improving people's lives. We are accelerating the growth of the UK space sector by: raising awareness and increasing demand for satellite-enabled services; making space technology more accessible and relevant; and helping businesses, entrepreneurs and innovators to overcome challenges and bring new products and services to market. Working around the globe, the Catapult is bringing together multi-disciplinary and technical entities from government, industry and academic to deliver new innovative ideas and solutions for a variety of markets including agriculture, mining, transport, government services and maritime.

Project Description:
The launch of the various Sentinel satellites by the European Space Agency (ESA) as part of the European Commission's Copernicus Programme is generating ever-increasing interest and therefore user requirements across government and different market sectors. However, there remain barriers to realising the potential use of this data as a routine input to value added service and product generation. Technical complexities associated with the handling and manipulation of the data remain, alongside a lack of standardisation of the form in which the data should be made available. To allow immediate analysis of the data without additional significant user effort, these barriers need to be addressed. To access the valuable information contained within EO data, users are required to undertake a series of complex pre-processing steps to turn the data from a 'raw' unprocessed format into a state that can be analysed. Unless the user has the expertise, software and infrastructure to handle and process this information, efficient exploitation of the data is not realised. A solution to this, in part, is through the systematic and regular provision of ARD. This is defined as "satellite data that have been processed to a minimum set of requirements and organised into a form that allows immediate analysis without additional user effort and interoperability with other datasets both through time and space". This project will assess whether a standardised workflow for processing Earth observation data creates a truly interoperable product that is comparable with itself through space and time and is able to appropriately enable a range of applications such as agriculture, forestry, risk management, disaster monitoring, and natural resource management.

Applicant Specification:
Applicants will need to have working knowledge of Earth observation and/or big raster data sets, have computing skill, be able to critically evaluate problems, suggest solutions and show initiative in a supervised R&D project.

Minimum Requirements:
•Experience in one or more of the following areas: mathematics, physics, computer science, remote sensing, GIS.
•Target courses: Remote Sensing, GIS, Geography, Physics, Engineering, Mathematics, Computer Science.
•Familiarisation with GIS and/or image processing tools.
•Familiarisation with data analytics tools such as Python/R/MATLAB.
•Strong written and verbal presentation skills.

Preferred Additional Requirements:
•Knowledge/experience of one of the Catapult Programme/market areas would be advantageous.
•User centred design and requirements gathering.
•Communication skills for dealing with a diverse set of technical, operational and sales staff.
•Project management capability.

Further details:
8 weeks minimum fixed term contract to be agreed with successful candidate but nominally with a start date on or before 7 March 2018. Salary is £1,500 per calendar month.

Closing Date for Applications: 15th February, 2018

Applications will be through the online form attaching a CV, before the closing date. They will be checked for eligibility and forwarded to the employer.