18/03 : Improving sustainable agriculture in Uganda: building an Early Warning Platform

Company: RHEATECH LTD

Supervisor: Paul Healy

Location: Harwell Campus, Oxfordshire

Company Description:
RHEA Group offers aerospace and security engineering services and solutions, system development, and technologies. With 25 years of experience in the professional engineering service market, RHEA Group opens the world to the engineering services of tomorrow. The company's background and roots are within space, and it has grown and expanded to other fields, including aerospace, concurrent design, system engineering, physical security and cybersecurity. RHEA Group employs more than 350 engineers and scientist worldwide. The company has supported more than 100 spacecraft, covering space missions such as Rosetta, Mars Express, Copernicus, and Galileo with the Manufacturing and Operations Information System (MOIS). Top clients include the European Space Agency, Canadian Government, EUMETSAT, the European Commission, EBU, CERN, NATO, Belspo. Headquartered in Belgium, RHEA Group also operates in Canada, Czech Republic, Italy, France, Germany, Spain, Switzerland, The Netherlands and the United Kingdom.

Project Description:
Weather-related extreme events have a negative impact on food security. The UK Space Agency and a consortium of companies led by RHEA are working with Ugandan Ministries and local NGOs to develop a Drought and Flood Mitigation Service to help Ugandan farmers respond effectively to climate change. The DFMS will use satellite and ground-based data combined with drought and flood models to produce better forecasts for the management of resources.

RHEA as the consortium lead has a 10-strong team working with our partners to build the DFMS platform. You will join this team to harness the partners' skills in Satellite Earth Observation, Meteorological and ground-based data.

There is scope to get involved with many areas of the platform build including back end and front end development using our core software set: GEOnode/Geo Server, NIFI, Jupyter, AWS cloud service, Datacube.

After reviewing the project documentation to update you on the build so far you would then get involved and fully embedded in the project team. Personal motivation and willingness to focus on our project are needed where you will learn a lot and will reap rewards.

You will then support with system development to assimilate users' needs following our first test release with live data in March. This will be an exciting time to be involved as we take

on board the user requirements, smooth out bugs and continue to add live EO and forecasting data to the platform.

There is a lot of scope to dive into an aspect of software and to get an over overview of the team's work. Along the way we will ask you for ad-hoc research in system compatibilities etc. so you need to be able to manage your own time efficiently.

During the project the successful candidate will develop skills and understanding in developing web application which map EO data, weather data and other in-situ data development. Whilst supporting the build of the web application you will:

- Autonomously design and implement web-based applications, RESTful API's, and 3rd party integration
- Implement tools to extract valuable information from satellite data
- Solve and articulate complex problems with application design, development, and user experiences

The technical skills you can develop include

- Web development for GIS
- Coding (Java script, Python)
- Nifi data routing

The soft skills you can develop include

- Team work
- Problem solving
- Time management
- Research and development

Applicant Specification: Our developers and engineers come from a range of science backgrounds so your academic learning can be varied as long as you are motived and interested in web and system development

Minimum Requirements:

- Background in IT, EO or a related discipline
- Excellent organisational skills
- Willingness to travel to meetings across the UK may be required. All travel costs will be covered.

Preferred Additional Requirements:

- Some experience in programming and data analysis
- Good communication skills working with a varied team
- Some experience with previously mentioned core software

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.