Earth Blox: front end functionality for planetary-scale space data analyses

Code: 20/31

Company: Quosient Ltd. (trading as Earth Blox)

Location: Any – work from own work environment.

Company Description:

Our motivation with EarthBlox (Patent filed) is to remove the barriers preventing widespread adoption of global satellite data. Our vision is to democratise the power of global satellite data and intelligence. EarthBlox's innovation leverages the power of cloud processing without the need for computer coding or high level earth-observation expertise. It enables the processing of terabytes of planetary scale geospatial data and the creation and download of actionable insights with unprecedented power and ease.

Satellites and planetary-scale data are available at unprecedented rates of acquisition for deforestation, urban expansion and large-scale disasters mapping. Environmental consultancies, supply-chain managers, insurers, retail and decision-makers in public institutions want to access this information yet are hindered by the complexity, cost and skill levels required to exploit the data. EarthBlox removes these barriers: its innovation lies in the complete removal of coding skills, making space data accessible to the masses, globally.

Project Description:

During this project, the student will support the development of the front end and user functionalities to Earth Blox for processing planetary scale satellite data. This will involve converting algorithms into blocks to populate Earth Blox's toolbox. The student will also contribute to UX/UI process, and to the setting up of payment protocols. Activities will include:

- the development of the user interface to allow users to make use of the functionality and the development of the toolboxes (which hosts the different boxes).
- The development of the necessary blocks and pre-built workflows (combination of algorithms into blocks) which allow users to perform the tasks desired. The student will support the conversion of a suite of algorithms into workflows for undertaking data analysis and metric extraction.
- team work to map out the user journey and how they interact with the user interface.
- Setting up/implementing the billing protocols and processes.

We would expect the applicant to develop a range of skills which are widely transfera- ble, including:

• Web design and programming, front-end and back-end, using JavaScript and Python, within a number of different frameworks;
• Web architecture and web server management;
• Cloud technology, most notably the cloud functionality provided by Google through App Engine or Cloud Compute; • Earth Observation data analyses
• Web security.
• Research and development practices;
• Customer interaction and engagement;

Applicant Specification:

Academic:

Has attained or is in the process of attaining a Bachelors degree in one of the following:

- Geosciences
- Computer Science - or any of its derivatives (i.e. Artificial Intelligence, Software Engineering, Web Design...)

Minimum Requirements:

- Technical knowledge of remote sensing and earth observation techniques
- Satellite Image processing experience
- Understanding and experience of creating Earth Observation data processing workflows or algorithms
- Proficient in Python (preferably) or R
- Comfortable on the command line in a Linux environment
- Some experience with Cloud functionality;
- Ability to work in a small team

Preferred Additional Requirements:

- Knowledge of front-end development (JavaScript, HTML, CSS)
- Experience using Google Cloud Platform
- Experience analysing data using Google Earth Engine
- Experience using GIS software packages (QGIS, ArcMap or SNAP)

Further details:

The internship will be a minimum of 8 weeks (with potential extension) but when you start and end is to some extent flexible, as we recognise that that Covid-19 require more flexible arrangements. The placement will require working remotely. To support this, we have robust support mechanisms (including bi-weekly team meetings and various connectivity options for team work). While the start date can be flexible, we would ideally want you to start early to mid-June 2020, to attend the SPIN Induction from the Satellite Applications Catapult. We

would expect completion before 20 September for the Showcase the following week. Salary is £1,500 per calendar month gross.

Closing Date for Applications: 5pm Wednesday 27 May 2020

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.