

**18/05 Finding innovative ways use existing data to train and validate satellite imagery feature extraction algorithms**

**Company: Spottitt Ltd**

**Supervisor: William Ray**

**Location: Spottitt Ltd, Electron Building, Fermi Avenue, Harwell Campus, Didcot, Oxfordshire, OX11 0QR**

**Company Description:** Spottitt is a start-up specialising in fully automated analysis of satellite imagery. <https://www.spottitt.com/>

**Project Description:**

One of the most challenging issues when developing global machine learning algorithms is processing and creating suitable training & validation datasets.

The project will focus on finding and utilising sources of data (e.g. Open Street Map) that can reduce the amount of manual generation of training and validation data. Specifically, you will be developing building footprint extraction algorithms.

In this project you will be developing feature extraction algorithms in cloud based environments. Firstly, using GBDX Notebooks (based on the Jupyter Notebooks) you will be developing algorithms using Amazon SageMaker using the Digital Globe archive.

Furthermore, you will have the opportunity to develop equivalent algorithms using very high resolution Airbus satellite imagery using the Azure Notebook service.

**Applicant Specification:**

Graduate with a background in Computer Science and/or Geography with an interest in Earth Observation and GIS. In particular we are looking for a willing learner who wants to combine EO data & machine learning.

**Minimum Requirements:**

Knowledge of machine learning concepts and algorithms; in particular deep learning and neural networks. The applicant should be confident in using Python 2/3 and familiar with the various data science libraries in python.

**Preferred Additional Requirements:**

Some experience using Jupyter Notebooks, or other similar cloud based platforms. Some experience or awareness i using EO and GIS data, GIS Desktop software (ArcGIS, QGIS)

**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: 15<sup>th</sup> 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.