Feature detection using AI on MWIR Imagery

Code: 21/42

Company: Satellite Vu

Location: Remote / Central London

Company Description:

Satellite Vu was established as a limited liability company in 2016 to better commercialise Earth observation technology and services to a wider business market. We are focused on the new insights that thermal Earth observation can bring to the challenges of the globe including climate change and managing the maritime environment. We believe that better business decisions can be made on energy consumption and industrial processes by measuring the thermal output of structures. Financial and resource efficiencies can be made by business being better informed on economic activity metrics derived through thermal measurement.

Satellite Vu is currently resident at a central London working space following our graduation from the Seraphim venture capital accelerator in November 2019. We have been focused on the sale of infrared image data to export markets globally and specifically in the finance and energy sectors. The company has received a number of innovation awards from ESA, GITEX and the sustainability conference CLIX.

Project Description:

Satellite Vu will launch a constellation of high-resolution IR satellites, the data from which will be the first of its kind available commercially. Traditionally Earth Observation data has been put through its paces using AI/ML feature detection, but high-resolution IR promises to improve certain use cases and this project will help us find out exactly which ones are most viable. The candidate will delve through our archive to select a number of representative samples to train an AI/ML feature detection algorithm. Initially, the candidate will use standard and widely available platform based algorithms to perform the feature detection, with the aim to evaluate and improve the algorithms as part of this project.

Once the training of the detector is complete the candidate will ingest a large amount of our data to understand how well the detector can perform and characterize which variables have the biggest effect on the quality of the detection. The candidate will pursue the most promising avenues and eventually attempt to create an analytics dataset based on the detector output. This value-added output will exemplify the capability of the detector and will be able to be showcased to potential customers.

Applicant Specification:

Academic:

- BSc in Geography, Remote Sensing, Computing, Maths or related field

Minimum Requirements:

- An understanding of AI/ML concepts
- An understanding of satellite imagery, specifically in the Infrared.
- Basic experience with creating training data and running ML models.

Preferred Additional Requirements:

Experience in performing AI/ML feature detection models on satellite imagery.

Further details:

8 weeks minimum fixed term contract to be agreed with successful candidate. Virtual Induction Event to be held on 21 June 2021. Ideally to complete before the start of the next academic year. Salary is £1,500 per calendar month gross.

Closing Date for Applications: 5pm Monday 7 June

Applications should be made through the online form on the Satellite Applications Catapult website before the closing date.

https://sa.catapult.org.uk/work-with-us/space-placements-industry-spin/

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. Email applications made to the Satellite Applications Catapult, UK Space Agency, or host organisations will not be processed.