

Project 18/41: EO Application Software Development: Locust biopesticide efficacy from Earth Observation data.

Company: Assimila Limited

Supervisor: Bethan Perkins

Location: Reading, UK

Company Description:

Assimila is a specialist Earth observation applications development and consultancy company. We work with clients to identify how their needs for environmental information can be met using Earth Observation (EO) data. We work with Universities in the UK and abroad to incorporate the latest research into our work. We take a physical approach to EO data interpretation, using radiative transfer modelling and data assimilation techniques to derive bio-physical parameters describing the land surface and its vegetation cover. Our main application areas are agricultural monitoring and crop pests and diseases.

Project Description:

Assimila is working with partners in the UK (CAB International, Kings College London, STFC) and China (Chinese Academy of Sciences, Ministry of Agriculture) to develop systems which support farmers and extension workers in China to manage locusts and wheat stripe rust - both serious 'national interest' pests. This collaboration involves collating and processing EO data and combing it with meteorological information to drive biological models which predict the growth of locust populations, bio-pesticide efficacy and wheat rust development.

Assimila is developing a system which will allow a user to ascertain whether an application of biopesticide will be effective in reducing locust populations before the locusts develop wings and become capable of swarming. This will allow users to decide whether to use more environmentally-friendly biopesticides, or resort to conventional chemical pesticides in the time they have remaining.

Many of the component of this system are implemented in prototype Python code and the successful applicant will integrate these systems into a final object-oriented, user-targeted application which is accessible online. The work will include compiling requirements, designing, coding and testing the integrated system, and deployment on to remote servers which are visible in China.

Applicant Specification: This placement will suit a student or recent graduate who has wishes to gain further experience of in software development as well as an interest in the wider uses of Earth Observation data.

Minimum Requirements:

- Software development experience

- Studying for or completed a degree in computing, mathematics or physical science.

Preferred Additional Requirements:

- Over a year's experience in Python coding.
- An interest in user-driven software design.
- Willingness to learn and apply new skills.
- A good communicator who can work as part of team.
- Able to work independently.
- Previous experience of the biological sciences, beyond GCSE.

Further details:

8 weeks minimum fixed term contract to be agreed with successful candidate but nominally with a start date around 18 June 2018, when the SPIN Induction Day will be held at the Satellite Applications Catapult, Harwell. Salary is £1,500 per calendar month.

Closing Date for Applications: 17:00, Friday 8 June, 2018

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.

Apply here: <https://sa.catapult.org.uk/people/space-placements-industry-spin/>