Spectral Remote Sensing Scientist

The company:

2Excel Aviation Ltd is a diverse and growing aviation innovation company that is 51% employee owned. The **geo** team solves problems using advanced remote sensing techniques. We own and operate an airborne sensor suite consisting of survey grade and hyperspectral cameras; this is supported by a range of highly specialised ground based sensors. We process, integrate and analyse this data with a range of other imaging and non-imaging sources to deliver solutions.

2Excel **geo** are unique in our ability to rapidly collect and process high quality hyperspectral imagery. This generates unique commercial and technical propositions, particularly when integrated with other remote sensing datasets such as LiDAR, optical and synthetic aperture radar from a range of platforms.

The role:

We are looking for a spectral scientist to develop hyperspectral processing workflows and contribute to product development. You will work with high quality spectral and spatial imagery on a diverse range of projects. You will collect data both on the ground, using our unique field spectroscopy equipment, and have the opportunity to collect data from our airborne platform.

Duties:

- Conduct research into hyperspectral and image processing algorithms;
- Implement techniques into operational workflows;
- Process collections of data into analysis ready products;
- Develop and deploy information extraction algorithms;
- Contribute to the development of new products.

Requirements:

- BSc or higher in physics, mathematics or related discipline;
- Programming experience in one or more of IDL, Python or R;
- Familiarity with basic spectral and image analysis techniques e.g. clustering, unmixing;
- Experience with desktop toolsets such as ENVI and QGIS;

Familiarity with agile development methodologies, GIS toolsets and a range of earth observation remote sensing data would be advantageous.

In return for working in our exciting and innovating company, you will get a competitive salary, 25 days of annual leave from day one, flexible working arrangements, company pension and private health insurance. In addition, you will become an Employee Owner as part of our Employee Ownership Trust (EOT). Our employees benefit from being part of the first and only aviation Company that has become Employee Owned.

All applications must be made by way of CV and covering letter to recruitment@2excel.uk. Please include your salary expectations and current notice period.

Job Types: Full-time, Permanent

Senior Spectral Remote Sensing Scientist

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The role:

We are looking for a senior spectral scientist to lead the development of hyperspectral and image processing algorithms and contribute to product development. You will work with high quality spectral and spatial imagery on a diverse range of projects. You will oversee the collection of data both from our airborne platform and on the ground, using our unique field spectroscopy equipment.

Duties:

- Direct research into hyperspectral processing algorithms;
- Co-ordinate the implementation of techniques into operational workflows;
- Manage the processing of collections of data into analysis ready products;
- Direct development of spectral and image information extraction algorithms;
- Contribute to the development of new products.

Requirements:

- MSc or higher in physics, mathematics or related discipline;
- Programming experience in one or more of IDL (preferred), Python or Matlab;
- Mandatory knowledge and experience:
  - spectral sensing including radiometric terminology, radiative transfer modelling and sensor calibration;
  - theory and use of spectral processing techniques such as atmospheric correction, geocoding, dimension reduction and target detection;
  - theory and use of multivariate data analysis including clustering, classification, un-mixing and feature selection;
  - theory and use of image processing techniques such as segmentation, feature extraction, noise reduction and change detection;
  - desktop toolsets such as ENVI and ERDAS, eCognition and QGIS;
- Desirable knowledge and experience
  - machine learning toolsets including random forests, support vector machines and neural networks;
  - desktop toolsets such as eCognition and QGIS;
  - familiarity with agile development methodologies, GIS toolsets and a range of earth observation remote sensing data.

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