University of Reading

JOB DESCRIPTION

Vacancy reference:	SRF26636
Post Title:	Data Analyst / Software Developer
Grade:	Grade 6 or 7 (according to experience and aptitude)
School/Department:	Institute for Environmental Analytics
Reports to:	Jon Blower (CTO)
Responsible for:	None initially

Purpose

To develop software and/or provide data analysis expertise to a range of user-focused projects at the Institute for Environmental Analytics.

Main duties and responsibilities

- To make a strong contribution to the IEA's portfolio of application development projects by providing expertise in data analysis and/or software development. The end users of these projects will be varied, including commercial decision-makers, analysts, researchers, policy-makers and the public. (*Grade 7 post-holders will be expected to take a leading role in these projects and display a higher level of technical proficiency*.)
  - Software development tasks may include developing web-based tools (client-side and server-side), implementing scientific algorithms and other similar tasks.
  - Data analysis tasks may include statistical analysis and modelling, data visualization, data mining and application of "big data" tools and techniques.
- To communicate effectively and professionally with end-users of these tools, other stakeholders (e.g. system administrators) and the wider community. Examples of such communication will include:
  - understanding of user and market needs;
  - requirements gathering, analysis and refinement;
  - presentation of work, both orally (e.g. meetings, workshops and conferences) and in writing (e.g. papers and reports). This may involve explaining complex concepts clearly to specialists and non-specialists;
  - production of high-quality documentation for end users, developers and system administrators;
  - in some cases, provision of tailored training/consultancy to clients/end users and on-going support in dealing with any enquiries/queries regarding product after-care.
  - Communication will take place through face-to-face meetings, remote tele- and videoconferencing and through written documentation.
- To contribute to the design of future projects and applications for funding by providing expert technical input (*Grade 7 post-holders will be expected to take a leading role in the IEA's technical input to the application*).

Supervision received

This post will be line managed by Dr Jon Blower (IEA Chief Technical Officer). Project management and day-to-day support will be available from Dr Blower and other senior colleagues. Further support and guidance will be available from other IEA data scientists and other staff. Training will be available, subject to discussion.

Supervision given

At Grade 6, there are no initial supervisory responsibilities, but post-holders may in due course be expected to supervise or mentor junior staff, students and interns.

At Grade 7, post-holders will be expected to provide technical supervision and mentoring to junior colleagues, including staff, students and interns. Opportunities to move into a line management role will also be available as appropriate.

Contact

You will work closely with colleagues at the IEA, which include consultants, software developers, data scientists, system administrators, environmental scientists and others. You will also work with other IEA partners (see http://www.the-iea.org/about/partners/ for a full list). You may be asked to represent the IEA at technical meetings with both IEA partners and external customers. Frequent contact with the wider data science community will be useful to develop your knowledge and skills.

Terms and conditions

There are no specified hours of work, but you will be required to work such hours as are necessary to carry out the duties associated with the post. Overtime is not payable. Some national and occasional international travel may be required. There is the possibility of working on temporary placement at the various IEA partner sites, subject to further discussion.

This document outlines the duties required for the time being of the post to indicate the level of responsibility. It is not a comprehensive or exhaustive list and the line manager may vary duties from time to time which do not change the general character of the job or the level of responsibility entailed.

Date assessed: 22nd June 2018

PERSON SPECIFICATION

Job Title	School/Department
Data analyst / software developer	**Institute for Environmental Analytics**

Criteria	Essential	Desirable
Skills Required	• Strong programming skills in Python or JavaScript • Strong interpersonal skills • Creative problem-solving skills • Ability to communicate clearly to project partners and users, both in writing and orally • Ability to produce high-quality work to agreed deadlines • Ability to manage the demands of working on several projects simultaneously	• Programming skills in other languages, e.g. Java, R • Skills associated with analysis, manipulation and/or visualization of environmental data, including Earth Observation data • Skills in handling highly diverse data (structured and unstructured) in different formats (binary and ASCII) • Ability to devise elegant and user-friendly solutions
Attainment	• Good degree in a quantitative science subject (mathematics, physics, computer science, engineering or similar), or equivalent experience	• Postgraduate degree in environmental science, computer science, physics, mathematics or related field
Knowledge	• Knowledge of good software development practices such as requirements- gathering, version control, unit testing, object-oriented design and documentation (for a software developer role) • Good working knowledge of statistics (for a data analysis role) *(For Grade 7 we will expect to see high degrees of proficiency in the above.)*	• Knowledge of machine learning and artificial intelligence techniques • Knowledge of Linux system administration • Familiarity with handling geospatial data, particularly using open-source tools, libraries and standards (e.g. PostGIS, GeoServer, OpenLayers, Leaflet) • Familiarity with relational and non-relational databases • Knowledge of environmental science, remote sensing or climate modelling • Knowledge of one or more sectors in which the IEA is active, e.g. energy, agri-tech, infrastructure

Relevant Experience	- Experience of interacting with different kinds of clients and understanding their needs - Experience of reporting results in a clear and comprehensible manner	- Experience of working in a commercial environment or in commercial project delivery. - Experience of product development or consultancy - Experience of implementing scientific algorithms - Experience of handling large volumes of environmental data (e.g. in formats such as NetCDF) - Experience of writing papers, reports or other significant documents for publication (essential for Grade 7). - Experience of project and/or team leadership (essential for Grade 7) - Experience of supervising or mentoring junior staff (essential for Grade 7)
Disposition	- Strong interest in applying skills to real-world project delivery in the environmental sector - Willingness to learn new skills on the job - Willingness to work both in a small team and as a self-motivate individual	
Other	- Willingness to travel, including occasional air travel - Willingness to present results at conferences, in meetings and in writing - Willingness to deliver work from client premises if required	Foreign language skills

Completed by: Jon Blower, IEA CTO   Date: 22/6/2018