

Job Title: Machine Learning Engineer

Req ID 7082 - Posted 26/06/2018



EUROPEAN SPACE AGENCY

Vacancy in the Directorate of Earth Observation Programmes.

ESA is an equal opportunity employer, committed to achieving diversity within the workforce and creating an inclusive working environment. Applications from women are encouraged.

Post

Machine Learning Engineer

This post is for a limited duration of 4 years, non-renewable, and is classified A2-A4 on the Coordinated Organisations' salary scale.

Location

ESRIN, Frascati, Italy

Description

Machine Learning Engineer in the Φ -lab Explore Office, Φ -Lab Division, Future Systems Department, Directorate of EO Programmes

Duties

The postholder will report to the Head of the Φ -lab Explore Office.

Working in an open, collaborative, multi-disciplinary team (Φ -lab), in active cooperation with other staff of the Directorate and ESA, as well as in cooperation with industry and research communities in the framework of ESA programmes, the postholder will:

- Conceive, rapidly prototype, and evaluate machine-learning solutions for application to Earth observation (EO) data sets and challenges, particularly those relevant to ESA EO missions
- Adapt existing Machine Learning (ML) and Deep Learning (DL) algorithms and tools to take account of the specific characteristics of EO data sets, physical measurement principles, and metadata
- Prepare, validate and maintain large-scale training data sets, to be used for development and evaluation of ML/DL algorithms and challenges, by international research and industrial communities
- Initiate and prepare technical specifications and statements of work, and oversee small, focused, exploratory projects to be competitively tendered and executed by industry and research organisations in ESA Member States
- Collaborate with partners in academia, the private sector and the startup ecosystem to foster use of EO-based solutions in their practices
- Provide ML technical support and guidance to the Φ -lab team

Technical competencies

Computer science fundamentals

Application of statistical analysis methods to multidimensional data sets

Probabilistic modelling and validation for large observational data sets

Applying ML/DL algorithms to EO and Geospatial data

Software engineering and system design for Machine Learning

Behavioural competencies

Innovation & Creativity

Problem Solving

Self Motivation

Education

A Master's degree or equivalent in relevant disciplines, e.g. engineering, computer science, applied physics

Additional requirements

- Programming in several of: Python, R, JavaScript, C/C++
- Deep learning tools such as Tensorflow, Caffe, PyTorch
- Research record in the ML/DL field
- Knowledge of geospatial big data analytics techniques
- ~3 years' industrial experience is required.

Other information

For behavioural competencies expected from ESA staff in general, please refer to the ESA Competency Framework.

The working languages of the Agency are English and French. A good knowledge of one of these is required. Knowledge of another Member State language would be an asset.

The Agency may require applicants to undergo selection tests.

The closing date for applications is 31 July 2018.

If you require support with your application due to a disability, please email contact.human.resources@esa.int.

Please note that applications are only considered from nationals of one of the following States: Austria, Belgium, the Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Ireland, Italy, Luxembourg, the Netherlands, Norway, Poland, Portugal, Romania, Spain, Sweden, Switzerland, the United Kingdom and Canada and Slovenia.

According to the ESA Convention the recruitment of staff must take into account an adequate distribution of posts among nationals of the ESA Member States. When short-listing for an interview, priority will first be given to external candidates from under-represented Member States. In view of the limited duration of this post, internal candidates are strongly advised to contact their HR advisor before applying. (<http://esamultimedia.esa.int/docs/careers/NationalityTargets.pdf>)

In accordance with the European Space Agency's security procedures and as part of the selection process, successful candidates will be required to undergo basic screening before appointment.

Recruitment will normally be at the first grade in the band (A2); however, if the candidate selected has little or no experience, the position may be filled at A1 level.