



**2019-IPR-I-000-012508**

**Information extraction from big geospatial data**

<p><b>Position for:</b> 1 Trainee TYPE II</p>	<p>As the science and knowledge service of the Commission, the mission of Joint Research Centre is to support EU policies with independent evidence throughout the whole policy cycle.</p> <p>The JRC is located in 5 Member States (Belgium, Germany, Italy, the Netherlands and Spain). Further information is available at: <a href="http://www.jrc.ec.europa.eu">http://www.jrc.ec.europa.eu</a></p> <p><b>The JRC team:</b> The <i>Joint Research Centre</i> (JRC; <a href="http://ec.europa.eu/dgs/jrc/">http://ec.europa.eu/dgs/jrc/</a>) is the scientific-technical arm of the European Commission. The approximately 2200 JRC employees working in Ispra are from all EU countries and there are also some non-EU visitors. The working environment is multilingual, multi-cultural and multi-disciplinary. The JRC's Big Data Analytics project (<a href="#">BDA</a>) team is developing the JRC Big Data Platform (<a href="#">JEODPP</a>), a multi-petabyte scale storage system co-located with computing capacities including GPUs for machine learning. This platform is versatile in the sense that it accommodates the needs of users with very different levels of computer skills. The BDA project is also developing innovative methods for the timely processing, analysis, and interactive visualisation/analysis of massive amounts of geospatial data for a range of applications from partner projects across JRC (e.g., environment, agriculture, development, and natural hazards). The BDA team contributes to the publication of scientific publications in conferences and peer-reviewed journals (see publication list at <a href="https://jeodpp.jrc.ec.europa.eu/home/">https://jeodpp.jrc.ec.europa.eu/home/</a>).</p> <p><b>Short description of activity:</b> The <i>Text and Data Mining Unit</i> (I3) of the European Commission's <i>Joint Research Centre</i> (JRC) in Ispra, Italy, is looking for a trainee to support the JRC's Big Data Analytics project (<a href="#">BDA</a>) team in its effort to improve its geospatial data information extraction tools available for exploratory visualisation and interactive analysis/prototyping as well as for batch processing. The tools consist of standard image processing/machine learning libraries complemented by a range of advanced image analysis functions. These tools are deployed on the batch processing as well on the exploratory visualisation and interactive analysis services of the JEODPP platform. These services are used by JRC projects requiring the processing of geospatial raster and vector data as well as any other data associated with a location (e.g, tweets, geotagged pictures, statistical data, ...).</p>
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	<p>The successful trainee will help to enhance the extraction of relevant information from geospatial data using the JRC Big Data Platform. In particular, he/she will contribute to the development of image analysis and machine learning workflows in dedicated JupyterLab notebooks with on-the-fly processing and visualisation of the results. If applicable, the trainee is also expected to contribute to writing a scientific publication reporting the work carried out.</p> <p><b>Qualifications:</b></p> <p><b>Essential skills</b> are (a) a Master degree (or an almost completed Master degree) in computer/data science, engineering, or related areas; (b) Python programming skills; (c) good working knowledge of English.</p> <p><b>Advantage skills and experiences</b> include: (d) good knowledge of image analysis/processing and machine learning with open source libraries; (e) programming skills for image processing in C/C++; (f) hands-on experience with Linux (g) the proven ability to work independently and as part of a team.</p> <p>In your application, please provide clear information on your skill set, by elaborating on the above-mentioned list of requirements and by listing your level of languages and your computer / programming skills.</p> <p><b><u>For general eligibility requirements, please read the rules governing the traineeship scheme of the JRC:</u></b></p> <p><a href="https://ec.europa.eu/jrc/en/working-with-us/jobs/temporary-positions/jrc-trainees">https://ec.europa.eu/jrc/en/working-with-us/jobs/temporary-positions/jrc-trainees</a></p>
<b>Unit /Directorate</b>	Directorate <i>Competences</i> I03 – <i>Text and Data Mining Unit</i>
<b>Duration Preferred starting date</b>	5 months 1 November 2019
<b>JRC Site Country</b>	Ispra Italy
<b><u>JRC contact details</u></b>	<b>For any technical problems with your application, please contact:</b> <a href="mailto:HR-AMC8-RECRUITMENT-TOOLS-SUPPORT@ec.europa.eu">HR-AMC8-RECRUITMENT-TOOLS-SUPPORT@ec.europa.eu</a>