



**2019-IPR-E-000-011691**

**Continuous User Authentication in IoT**

<p><b>Position for:</b></p> <p>Trainee</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><u>Short description of activity:</u></b></p> <p>The current vacancy is with the Cyber and Digital Citizens' Security Unit, Space, Security and Migration Directorate, located in Ispra, Italy. The mission of the Unit is to strengthen trust and security of the European Citizen in a sustainable and inclusive ICT-based European society by scientific research on how emerging Information and Communication Technologies will impact on the security and privacy of citizens' daily life. The unit works on risk mitigation, cyber security, cybercrime, data protection, privacy and on the associated legal and regulatory frameworks.</p> <p><i>Objective of the stay:</i></p> <p>The selected candidate will assist in the unit's project on Cyber-Security in mobile environments, IoT and online services. Specifically, the candidate will assist in the design and implementation of a continuous user-authentication system in IoT environments with the support of machine learning techniques.</p> <p><i>Tasks to be carried out:</i></p> <p>The tasks to be carried out under supervision of the traineeship adviser will include:</p> <ul style="list-style-type: none"><li>• Design and implement a testbed IoT architecture for user authentication.</li><li>• Identification and collecting the proper data that can contribute to authenticating users in IoT.</li><li>• Testing machine-learning classifiers on data that contributes to user authentication in IoT.</li><li>• Implementing a continuous user authentication</li></ul>
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	<p>service.</p> <ul style="list-style-type: none"> <li>• Document the outcome of the accomplished tasks.</li> </ul> <p><b><u>Qualifications:</u></b> <b><u>Essential:</u></b></p> <ul style="list-style-type: none"> <li>• Computer Science degree or similar</li> <li>• Experience in programming with Python, C or Java</li> <li>• Good understanding of machine learning techniques</li> <li>• Good command of the English language, both oral and written (level B2)</li> </ul> <p><b><u>Advantage:</u></b></p> <ul style="list-style-type: none"> <li>• Programming experience, preferably in Android OS and IoT platforms (e.g., Arduino/Raspberry)</li> <li>• Experience and good understanding in algorithms.</li> <li>• Knowledge of common data science tools such as Weka, NumPy, or similar.</li> <li>• Experience in debugging.</li> </ul> <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>	<p>Space, Security and Migration Cyber and Digital Citizens' Security</p> <p>Further information: <a href="https://ec.europa.eu/jrc/">https://ec.europa.eu/jrc/</a></p>
<b>Indicative duration</b>	5 months
<b>JRC Site</b>	Ispra
<b>Country</b>	Italy
<b><u>JRC contact details</u></b>	<p><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></p>