EUROPEAN COMMISSION
DIRECTORATE-GENERAL
JOINT RESEARCH CENTRE
Directorate R
Human Resources

2019-IPR-E-000-013232 **FIUME exploratory research activity**

Position for: Trainee	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. The JRC is located in 5 Member States (Belgium, Germany, Italy, the Netherlands and Spain). Further information is available at: http://www.jrc.ec.europa.eu The Copernicus Emergency Management Service (Copernicus EMS) supports crisis managers, civil protection and hydro-meteorological authorities with warnings, risk and impact assessments as well as ad-hoc geospatial analysis before, during and after natural disasters and man-made crisis. JRC is starting an exploratory research activity (FIUME) to integrate social media into the Copernicus Global Flood Awareness System (GloFAS) for the assessment of risk and impacts in case of urban floods (with low predictability), providing dynamic information about population potentially affected and a classification of city area and critical infrastructure affected by the event. **Short description of activity:** We are looking for a trainee to contribute to the FIUME activity, especially for testing the multi-class classification of Social Media posts. The trainee's primary duties involve conducting machine learning experiments for testing text classification, with three targets: (1) Helping the supervisor and the international experts in developing a geocoder for extracting infrastructures information from text using reference data from open source tools such as OpenStreetMaps or other Social Media (infrastructure classes extended as in OSM).

	(2) Classifying text from social media as relevant to classes defined in the Sendai Framework for DRR, specifically for the Critical Infrastructure impacts (health, educational, transports, religion, leisure, market, house, people, etc). (3) Helping the supervisor and project officers to build a model for the identification of number of people present in an area through Social Media The Trainee will help in all the stages of the processes: (i) cleaning the data; (ii) setting up the framework for the experiments;(iii) conducting the experiments and (iv) analyze the results She/He will also contribute with a Report about the job done which will be included in the overall Project report and it will lead to a Peer Reviewed paper (or Conference proceedings). **Qualifications:** Essential: • University degree in the field of Computer Science or Geosciences or Engineering • Good knowledge of Machine Learning • Knowledge of transfer learning to Multi-lingual texts in Machine Learning • Good programming skills in Python • Knowledge of OpenStreetMaps • Good command of written and spoken English (level B2) Advantage: • Knowledge of LINUX and bash programming • Advanced writing skills (ideally the candidate has already contributed to a published document) • Good knowledge in CUDA and TensorFlow tools The successful applicant isexpected to be creative and motivated, be able to work independently, to have good oral and written communication skills in English (level B2). **For general eligibility requirements, please read the rules governing the traineeship scheme of the JRC:** https://ec.europa.eu/jrc/en/working-with-us/jobs/temporary-positions/jrc-trainees

Directorate **Unit** **Project**	Directorate Space, Security and Migration Disaster Risk Management Unit – E.1 FLOODS Further information: https://ec.europa.eu/jrc/en/search/site/flood
Indicative duration **Preferred starting date**	5 months 1/2/2020
JRC Site **Country**	Ispra Italy
JRC contact details	**For any technical problems with your application, please contact:** JRC-ESRA@ec.europa.eu