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DLR – DAAD Fellowships

Fellowship No. 364

Research Area : Space

Research Topic: **Data Analytics for Earth Observation sensor data**

DLR Institute: Remote Sensing Technology Institute (IMF) at DLR Oberpfaffenhofen

Position: Doctoral Fellow

Openings: 1

Job Specification: Contrary to the recent progress in data analysis, the information extraction from the extremely large volumes of high-complexity Earth Observation (EO) sensor data requires novel paradigms and algorithms which do not exist today. The aim of the proposed Ph.D. thesis is to develop new concepts, methods and algorithms, and integrate them in a next generation of automated tools supporting the exploration of large and heterogeneous EO data. The goal is the optimization of the signal feature extraction and the clustering methods, driven by the application, so as to find sub-spaces that maximize the discriminative capability with respect to specific targets. At the same time, the methods shall minimize the impact of irrelevant, superfluous or background information. The approach shall be based on the synergy of Machine Learning and Information Theory, with a particular focus on Deep Learning and Clustering paradigms. The study shall establish a hierarchical process as a generalized communication channel coping with the issue of content relevance, defining data structures to support optimal communication of information and knowledge from heterogeneous data.

The developed algorithms should complete and enhance the existing tools and systems for scientific discovery, and enhance and enlarge their functionalities for new applications: data analytics, data mining, semantic understanding, etc.

Required Qualification: The candidate should have a strong background in Telecommunication Engineering, or Computer Science. Programming skills are required. Open communication and team spirit are furthermore expected. He/she should be able to work in a research team at the Remote Sensing Technology Institute of DLR in the frame of European and international projects and collaboration, carry out advanced theoretical research, demonstrate practical results, and contribute to the technical and technological aspects of the projects.

Advantageous Skills: Machine Learning, programming in Java, C/C++, data bases.

English competence: Very good (see requirements on www.daad.de/dlr)

Earliest Start Date: January 2019

Application Deadline: Until position filled

Further Information: <http://www.dlr.de>
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