

We are looking for a motivated and reliable ***bachelor/master student or intern in the teams "Geo Risks" and "Information systems and geomatics" (department "Geo Risks and Civil Security") at the Remote Sensing Data Center/DLR*** in Oberpfaffenhofen starting in Spring 2024.

The position will be embedded within a research project which aims to derive consistent derive an area-wide classification of settlement types from remote sensing and auxiliary data to analyze the effects of internal migration in Germany. Within the framework of the internship/master/bachelor thesis, the following tasks are to be addressed:

Abstract:

The aim of the project is to develop a method for classifying settlement types based on machine learning to create a nationwide classification for Germany. The main task of the internship will be to collect and systematically process spatially descriptive information about buildings, land use, infrastructure and public facilities, etc. In order to capture the complexity of the spatial relationships between the individual locations of the settlement landscape and their surroundings, this information will also be compiled at several spatial scales. The result will be a high-dimensional feature space, a so-called data cube, which will capture the settlement area in Germany in a multimodal and differentiated manner at every location. This forms the basis for the classification of the federal territory of Germany into different settlement classes such as 'urban core', 'urban edge', 'suburban area' and 'rural area', as well as other possible classification levels.

Background information:

The selected student will work in the "Geo Risks" and "Information systems and geomatics" teams and will be supervised by Matthias Weigand and Ines Standfuß (both scientific collaborators in the project).

Prerequisites/conditions:

- Internship: duration of at least 12 weeks (also mentioned as compulsory in the study regulations)
- A workplace will be provided, home office (from a German address) is a possible option.

Requirements:

- Good knowledge of scripting languages like *Python/R*
- Experience with geoinformation systems (*QGIS, ArcGIS*, etc.)
- Basic software development skills with git
- Basic knowledge in *geostatistics* and *geodata analysis*
- Basic knowledge in the analysis of urban geographic topics is advantageous

Applicants for this position are encouraged to forward a short cover letter indicating their motivation, accompanied by a current CV and transcripts of records of the previous and current study programs to ines.standfuss@dlr.de.

This position offer is valid end of January 2024.