



Proposition de stage M2

Classification of multi-source satellites images for grassland monitoring

Context

Satellite remote sensing imagery represents an attractive data source to monitor large regions with frequent updates. The classification of radar and optical images time-series have already proved to be an invaluable input for monitoring earth surface. New earth observation missions such as Sentinel provide images with high spatial and temporal resolution. Accordingly, new image classification methods for the generation of reliable land cover maps are needed.

In agricultural environments, grasslands are a land cover class of utter interest. Grasslands allow the characterization of ecosystem services such as quality feed, animal health or quality biomass.

Main goals

Hence, the goal of this internship is the classification of the new Sentinels multi-temporal satellite images. Specifically, the internship aims at detecting grassland areas over large areas. Therefore, new classification strategies will be studied to exploit the complementary of optical and radar information.

Key-words

Satellite image times series, supervised classification, land cover

Required skills:

The candidate must have a strong background in Signal and Image Processing, Computer Vision and programming expertise.

Hosting Laboratory:

The Cesbio laboratory (Centre d'Études Spatial de la Biosphère) in Toulouse, France. Cesbio aims to develop knowledge on continental biosphere dynamics and functioning at various temporal and spatial scales (<http://www.cesbio.ups-tlse.fr>)

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