Machine Learning and Artificial Intelligence for Change Detection in Multi-temporal Imagery

Mots clés : Array

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Résumé du projet de recherche (Langue 1)

The goal of this thesis subject is to design semi-automatic change detection solutions on remote sensing multi-temporal images. The major issue is to learn appropriate deep machine learning representations that incorporate different sources of knowledges and constraints (users’ feedback, metadata, etc.), and to model the temporal evolution of images in order to learn how to make a clear difference between irrelevant changes (due to the acquisition conditions) and relevant ones (due to the appearance or disappearance of relevant entities into scenes). Applications may be of different natures ranging from studying environmental variations and climate changes (melting glacier, deforestation, etc.), to assessing damaged areas after natural hazards (typhoons, flooding, earthquakes, etc.). Evaluations will be considered, through different international benchmarks in remote sensing change detection, on large-scale and high resolution multi-temporal images (see also attached document).