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SatelliteChangeNet: Deep Learning approach for Detection & Prediction

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Abstract: *In geoscience, Detection is a useful method for analyzing land surface changes using data from Earth observation and for uncovering links between human activities and environmental phenomena. Detection in remote sensing is a rapidly evolving area of interest that is relevant for a number of fields. Recent years have seen a large number of publications and progress, even though the challenge is far from solved. This review focuses on deep learning applied to the task of Detection in multispectral remote-sensing images. In this work, SatelliteChangeNet addresses the growing need for an accurate and effective method to monitor and predict changes in satellite imagery, which is important for many purposes such as environmental monitoring, urban planning, and agriculture and disaster management. The changes always aim to show the struggle with the body and its different structures and lead to the search for a deep learning process. The program focuses on the use of satellite data for exploration of new areas, urban development analysis, environmental management damage, and change and prediction with important applications in agriculture. Water resources and farmland provide a lot of information about our planet. Analyzing these changes over time is important for understanding land use, environmental change, and natural hazards*

Keywords: Satellite imagery, detection, Prediction, Deep learning, Bi-temporal analysis, Environmental monitoring, Semantic segmentation, Object detection, Feature extraction, Pattern recognition, Sustainable development