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Satellite Based Mapping of Woodland and Waterbodies Detection

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Abstract: *This design focuses on developing an automated system for the discovery and mapping of trees and waterbodies from high- resolution satellite imagery. The lack of accurate spatial data on tree and water bodies distributions poses significant challenges across husbandry, environmental monitoring, and civic planning sectors. Inefficient ranch operation practices, hindered environmental monitoring sweats, and shy resource allocation are direct consequences of this data insufficiency. By using advanced image processing and machine literacy ways, this design aims to enhance decision-making processes in perfection husbandry, biodiversity conservation, and sustainable land use planning. The issues will empower stakeholders to ameliorate crop operation practices, cover environmental changes, and alleviate the impacts of illegal logging and deforestation, thereby contributing to global sweats in environmental sustainability and climate change mitigation*

Keywords: Satellite imagery, machine literacy, environmental monitoring, forestland discovery, water body discovery, Faster R- CNN, Graph Neural Networks

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