

REPUBLIC OF RWANDA



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CROPS CLASSIFICATION AND CORRESPONDING CULTIVATED AREA COMPUTATION IN MIXED CROPS FARMS USING SATELLITE IMAGES AND MACHINE LEARNING

National Institute of Statistics of Rwanda

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Outline

- Background
- Expected Outputs
- Accessible satellite images by NISR
- Inputs from ML Group

Background

- The National Institute of Statistics of Rwanda (NISR) conducts Seasonal Agricultural Survey since 2013 in order to provide timely, accurate, reliable and comprehensive agricultural statistics in Rwanda in terms of land use, crop production and livestock to monitor current agricultural and food supply conditions and to facilitate evidence based on decision making for the development of agriculture sector.
- However, it has been a challenge to automatically identify and quantify individual crops in a multi crops farms to estimate production of major crops (MT), Yield in Kg/ha, cultivated area. Besides, the existing methods of crops identification is done manually. Consequently, NISR proposes a research project on analyzing individual crops in mixed crops farms using Machine Learning techniques on the existing and new high resolution images datasets.

Expected Outputs

- Crops classification in mixed crops farms
- Estimation of Individual crops quantity
- Individual crops cultivated area computation
- Automating individual Crops' statistics production
- Capacity building of NISR employees

Inputs from ML Group

Expertise in ML such as Deep Learning Frameworks (Pytorch , Tensorflow),
Computer Vision, and GIS

Satellite images source

NISR has images from Worldview 2 and 3

Thank you

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