International Centre of Insect Physiology and Ecology (icipe)

Enhancing Crop Systems Classification through Fusion of Planetscope and Sentinel-2A using Deep Learning.

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INTRODUCTION

- Crop systems classification is essential in understanding agricultural landscapes, monitoring crop production, and managing resources effectively.
- The fusion of high-resolution data from Planetscope and Sentinel-2A satellites offers a promising approach to achieving more accurate crop

RESULTS

Crop Systems Map





- classification.
- By integrating these datasets, the strengths of both sensors can be leveraged.
- The high-resolution fused image can be used for crop systems classification.

OBJECTIVES

- Develop a deep learning model that can predict Sentinel-2A at 2.5m.
- Classify common crop systems practiced in Busia County, Kenya.



IMPACT

• The crop systems maps developed have enhanced agricultural planning, by having farmers make

informed decisions on what crops to plant, when to plant them, and how to manage resources effectively.

• Effective crop systems promote sustainable land use, preventing soil degradation, and other environmental issues.

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- Deep learning has been effectively used to enhance the spectral and spatial resolution of Sentinel-2A. The high-resolution satellite image has been effectively used in crop systems classification to provide solutions for agricultural planning, and sustainable land use.

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