IJARSCT
ISSN (Online) 2581-9429
International Journal of Advanced Research in Science, Communication and Technology (IJARSCT)
International Open-Access, Double-Blind, Peer-Reviewed, Refereed, Multidisciplinary Online Journal
Impact Factor: 7.67
Volume 5, Issue 1, March 2025

Agri-Vision AI Powered Farm Segmentation

Miss. Trupti K. Varma[1], Mr. Gous. D. Bahurupi[2], Mr. Ayan I. Shirgave[3], Mr.Umar S. Shaikh[4], Prof. Mr. A. S. Salavi (Kumbhar)[5]

Students, Computer Science & Engineering Department[1,2,3,4]
Lecturer ,Computer Science & Engineering Department[2]
Yashwantrao Chavan Polytechnic, Ichalkaranji, India
truptivarma1@gmail.com, gousbahurupi5@gmail.com, ayanshirgave08@gmail.com
gousbahurupi5@gmail.com, gousbahurupi5@gmail.com

Abstract: *This project applies deep learning-based semantic segmentation in orchard mapping.The general objective is the accurate detection and localization of tree canopies based on UAV images, under a variety of conditions such as changing seasons, age of trees, and weed cover levels. U-Net architecture is used in training annotated datasets for automatic tree canopy segmentation, which generates masks related to canopy size, shape, and planting gaps, thus helping with precision agriculture. This approach improves decision-making capability in irrigation, pesticide application, and yield estimation. Using advanced computer vision techniques, the project provides a scalable, efficient solution for modern agricultural systems*

Keywords: Sematic segmentation, U-net alogorithm, image processing, deep learning, agricultural technology