

IAF SYMPOSIUM ON INTEGRATED APPLICATIONS (B5)
Integrated Applications End-to-End Solutions (2)

Author: Dr. Alavikunhu Panthakkan
University of Dubai, United Arab Emirates, apanthakkan@ud.ac.ae

AUTOMATIC PALM TREES DETECTION FROM MULTISPECTRAL UAV IMAGES

Abstract

Palm trees are considered a symbolic agricultural heritage in the United Arab Emirates (UAE). This paper proposes an automated approach to detect and count individual palm trees from UAV using a combination of spectral and spatial analyses. The best practices in insuring the health status and maintaining the production rate, requires frequent mapping and monitoring. The traditional way of mapping palm trees was implemented manually which has resulted in the lack of accuracy, more time consuming and intensive human interactions. Remote sensing including satellites and Unmanned Aerial Vehicles (UAVs) has contributed to providing potential solutions in terms of large areas coverage, spatial and spectral information. The performance of the proposed automatic palm trees detection system evaluated using various metrics such Precision, Recall and F1-score. Our proposed automatic palm trees detection system gives better performance as compare to other state of art algorithms. Experimental results reveal that more than 95