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Crop Classification using Unmanned Aerial Vehicle Images

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Abstract : One of the well-known areas of computer science and engineering, image processing in the context of computer vision has been essential to automation. In remote sensing, medical science, and many other fields, it has made it easier to uncover previously undiscovered facts. Grading of diverse items is now possible because of neural network algorithms, categorization, and digital image processing. Its use in the classification of agricultural products, particularly in the grading of seeds or grains and their cultivars, is widely recognized. A grading and sorting system enables the preservation of time, consistency, and uniformity. Global population growth has led to an increase in demand for food staples, biofuel, and other agricultural products. To meet this demand, available resources must be used and managed more effectively. Image processing is rapidly growing in the field of agriculture. Many applications have been developed using this approach for crop identification and classification, land and disease detection and for measuring other parameters of crop. Vegetation localization is the base of performing these task. Vegetation helps to identify the area where the crop is present. The productivity of the agriculture industry can be increased via image processing that is based upon Unmanned Aerial Vehicle photography and satellite. In this paper we use the machine learning techniques like Convolutional Neural Network, deep learning, image processing, classification, You Only Live Once to UAV imaging dataset to divide the crop into distinct groups and choose the best way to use it.

Keywords : image processing, UAV, YOLO, CNN, deep learning, classification
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