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CERTIFICATE

This is to certify that the Project work entitled “**Ship and Aircraft Detection in Satellite Images using Deep Learning Techniques (YOLOV3, Faster R-CNN and SSD)**” was successfully completed by **Aniket Pathak (171230012)**, B. Tech (Electrical & Electronics Engineering) 3rd year student of National Institute of Technology, Delhi. His co-guide for the project was **Dr. Anil Kumar**, Scientist/Engineer ‘SG’ & Head Photogrammetry and Remote Sensing Division of Indian Institute of Remote Sensing (Indian Space Research Organization), 4-Kalidas Road, Dehra Dun. He has done his internship from **April 15, 2020 to July 13, 2020**.

He has worked upon various deep learning algorithms of Object Detection including YOLOV3, Faster R-CNN and SSD with proficiency in **Python** language. During the internship he preprocessed the Satellite Images, labelled the classes, built deep learning models and trained the models with different classes. The models were very accurate in detecting the desired classes. He also studied about types of images and various Image Classification techniques in Remote Sensing.

During the period we found him **intelligent, independent, sincere and hard working**. We wish him success for his future endeavors.


Dr. Anil Kumar
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