Report 2

CSE541 Computer Vision   Section-1

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Dataset analysis:

Visdrone 2019 detection:
We are using the Visdrone 2019 dataset for training our model.

The VisDrone2019 dataset is collected by the AISKYEYE team at the Lab of Machine Learning and Data Mining, Tianjin University, China. This dataset provides a wide range of data from different environments and different perspectives. It provides image data, video data, single-object, and multiple-object data. It also has data for the day and the night, too. This wide range of data can help to make the model more robust to the different real-life scenarios. Moreover, The benchmark dataset is made up of 288 video clips made up of 261,908 frames and 10,209 static images that were taken with various drone-mounted cameras. These clips cover a wide range of topics, such as location (taken from 14 different Chinese cities that are separated by thousands of kilometers), environment (urban and rural), objects (pedestrians, cars, bicycles, etc.), and density (sparse and crowded scenes). It should be noted that several drone platforms (i.e., drones with

different models), different scenarios, and varying weather and lighting conditions were used to collect the dataset. More than 2.6 million bounding boxes of frequently-interested targets, including cars, bicycles, tricycles, and pedestrians, are carefully tagged into these frames. To improve data usage, a few more crucial features are offered, such as object class, occlusion, and scene visibility. With these advantages, in our project of small object detection in aerial imagery, this dataset fits perfectly.

References:

https://github.com/VisDrone/VisDrone-Dataset

https://openaccess.thecvf.com/content_ICCVW_2019/papers/VISDrone/Du_VisDrone-DET2019_The_Vision_Meets_Drone_Object_Detection_in_Image_Challenge_ICCVW_2019_paper.pdf

https://ieeexplore.ieee.org/document/9021986