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Dataset Open

Unmanned Aerial Vehicles Dataset

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Unmanned Aerial Vehicles Dataset:

The Unmanned Aerial Vehicle (UAV) Image Dataset consists of a collection of images containing UAVs, along with object annotations for the UAVs found in each image. The annotations have been converted into the COCO, YOLO, and VOC formats for ease of use with various object detection frameworks. The images in the dataset were captured from a variety of angles and under different lighting conditions, making it a useful resource for training and evaluating object detection algorithms for UAVs. The dataset is intended for use in research and development of UAV-related applications, such as autonomous flight, collision avoidance and rogue drone tracking and following. The dataset consists of the following images and detection objects (Drone):

Subset	Images	Drone
Training	768	818
Validation	384	402
Testing	383	400

It is advised to further enhance the dataset so that random augmentations are probabilistically applied to each image prior to adding it to the batch for training. Specifically, there are a number of possible transformations such as geometric (rotations, translations, horizontal axis mirroring, cropping, and zooming), as well as image manipulations (illumination changes, color shifting, blurring, sharpening, and shadowing).

****NOTE** If you use this dataset in your research/publication please cite us using the following**

Rafael Makrigiorgis, Nicolas Souli, & Panayiotis Kolios. (2022). Unmanned Aerial Vehicles Dataset (1.0) [Data set]. Zenodo. https://doi.org/10.5281/zenodo.7477569

Files

Annotations.zip

Annotations.zip

The previewer is not showing all the files.

- Annotations
  - COCO
    - Test
      - Test.json 70.1 kB
    - Train
      - Train.json 135.6 kB
    - Valid
      - Valid.json 69.2 kB
  - VOC
    - Test
      - 0_matrice_300_7575.xml 347 Bytes
      - 100_matrice_300_510.xml 349 Bytes
      - 101_matrice_300_v1_5100.xml 349 Bytes
      - 102_matrice_300_v1_2910.xml 351 Bytes
      - 103_IMG_2595.xml 349 Bytes

Files (1.2 GB)

Annotations.zip

md5:0aa7e7195b520ba17cde0854a13d29b7

1.0 MB

Preview Download

Images.zip

md5:bbf07f92bab4d3c78448ec89e4b01b55

1.1 GB

Preview Download

labels.txt

md5:30484b94ebd1fac41701ebeb678f4e84

3 Bytes

Preview Download

Additional details

Funding

European Commission

KIOS CoE - KIOS Research and Innovation Centre of Excellence 739551

References

- N. Souli, R. Makrigiorgis, P. Kolios and G. Ellinas, "Cooperative Relative Positioning using Signals of Opportunity and Inertial and Visual Modalities," 2021 IEEE 93rd Vehicular Technology Conference (VTC2021-Spring), 2021, pp. 1-7, doi: 10.1109/VTC2021-Spring51267.2021.9449064.
- N. Souli et al., "HorizonBlock: Implementation of an Autonomous Counter-Drone System," 2020 International Conference on Unmanned Aircraft Systems (ICUAS), 2020, pp. 398-404, doi: 10.1109/ICUAS48674.2020.9213871.

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Keywords and subjects

Unmanned Aerial Vehicles | Object Detection | Deep learning | Computer Vision | dataset | YOLO | COCO | VOC | tracking

Details

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Technical metadata

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