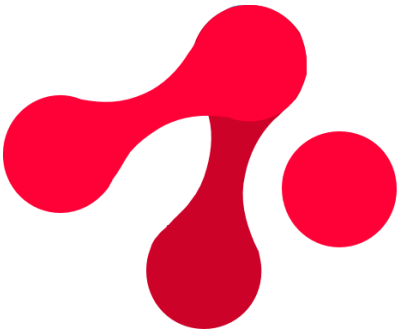

Internship Assignment for Computer Vision

Creating a partially annotated image using fully annotated and a reference image

AKAIKE

11th April 2023

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Objective

The objective of this assignment is to develop a solution using image processing techniques to partially de-annotate an image, given an original image and a fully annotated image. The solution should be able to de-annotate the image partially without re-annotating the original image. The assignment will also provide a set of sample images containing original, fully annotated, and partially annotated images for testing and evaluation purposes.The solution should be able to identify and remove specific annotations from the fully annotated image while preserving the underlying information of the original image. The partially de-annotated image should not contain any unwanted annotations or distortions that may affect its interpretation. Additionally, the solution should be able to generalize to different types of images and annotations, and should be efficient and scalable for processing large datasets.

*** Annotation of original images partially will not be considered as a solution. You're not allowed to use any Object Detection model on the images*

Data

Please download the assignment folder from here. The file will contain 2 folder **train** and **test** and a submission file.
The train folder contains 3 images

- ***original_image*** : Original Base Image without annotation
- ***fully_annotated*** : Fully annotated Image
- ***partially_annotated*** : Partially annotated Image

The test folder will have 2 images.

- ***original_image*** : Original Base Image without annotation
- ***fully_annotated*** : Fully annotated Image

Assumptions

You can assume the following in the image:

- There will be only two annotations per image
- There will be one dog and a cat in the image
- The annotation of the cat should be retained in the partially annotated image

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Example Images

Original Image

Full annotated image

Partially annotated image

Submissions

The Submission shall be output image saved in output image path

Code format

The code submission shall be a .py script that contains the following function. Each function is associated with an objective as explained in the objective section.

```
def get_ouput_image(original_image_path: str, fully_annotated_image_path: str,
partially_annotated_image_path: str):

  cv2.imwrite(partially_annotated_image_path, partially_annotated_image)
```

The above functions shall have the following behaviour:

1. The functions shall only accept arguments of string data types and list. If any other data type is passed, it should raise an exception.
2. The functions should not return anything

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Submission guidelines

1. Your code and submission will be subject to automated checks, unit tests and plagiarism checks. Please follow the below guidelines so that it is not rejected.
2. Your code will also be automatically checked for code quality as well. Please follow PEP8 guidelines.
3. Share a writeup discussing the methods and techniques you've used in creating your solution.
4. Share the submission as a script (.py) file and include proper documentation that supports your solution.
5. Zip your code and documentation with the following naming convection and upload to the appropriate slot in the google forms **`<yourname>_cv_assignment.zip`**

Solution Guidelines

1. Feel free to use any image processing techniques, libraries. Please provide due credits to those.
2. Try OpenCV based techniques.
3. Do not use any Object Detection Models for Annotation. Using one would void your submission