

****Brand Blurify****

A Logo/Brand Blurring tool for Images

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1 Introduction and Motivation

In the age of abundant visual content, copyright concerns over brand logos pose challenges across media, news, social media, and even company presentations, this project seeks to develop a tool that automatically detects and blurs logos within images, aiding content creators in navigating copyright complexities and ensuring legal compliance. It can also prove useful for corporations to conduct photography in public areas without fearing the presence of competitor branding in their images.

2 Challenges

A major challenge will be ensuring accurate logo detection across diverse image presentations. Logos can appear at various angles, distorted on curved surfaces like bottles or vehicles. The tool will need to differentiate between logos and similar shapes while also accounting for potential lighting variations or partial occlusions. This complexity is further increased by the huge number of logos that will need to be included in the dataset.

3 Difference from Existing Solutions

There are several solutions available for object detection in images, such as YOLOv7 [1] and Faster R-CNN [2]. These only identify physical objects from an image, and to our knowledge there is only one model that specifically targets branding or logos in an image [3]. However, there is no user interface for this tool and it only identifies the logos, it does not remove or blur them. Currently, movies and corporations manually blur or edit out any instances of logos from their material using photo or video editing software. There does not seem to be an automated solution for this problem, which is why we aim to go one step ahead and combine these two processes of identification and then removal (blurring).

4 High Level Architecture

We are aiming to develop a web-application with a simple and intuitive interface. It will take an image as input from the user and operate on it using our model in the back-end. More specifically, the model will first identify any logos/branding in the image and then use editing tools to blur that portion while keeping the rest of the

image intact. The website will then return the output image to the user and allow them to download it.

5 Available Datasets

There exists an unofficial dataset known as "Logos in the Wild" [4]. It contains multiple logos for each company for variety and for a broader dataset. The files are structured with a separate folder for each brand to make it easier to navigate. This dataset includes 11,054 images with 32,850 bounding boxes for a total of 871 brands. If needed, we will add our own data to this set as well that might include more Pakistani companies.

References

- [1] Wongkinyiu. *Wongkinyiu/Yolov7: Implementation of paper - yolov7: Trainable bag-of-freebies sets new state-of-the-art for real-time object detectors*. 2022. URL: <https://github.com/WongKinYiu/yolov7>.
- [2] Ahmed Fawzy Gad. *Faster R-CNN explained for Object Detection Tasks*. Apr. 2021. URL: <https://blog.paperspace.com/faster-r-cnn-explained-object-detection/>.
- [3] ilmonteux. *Ilmonteux/logohunter: Deep Learning Tool to find brand logos in Everyday Pictures*. 2019. URL: <https://github.com/ilmonteux/logohunter/tree/master>.
- [4] Angelo Monteux. *Logos in the wild dataset*. July 2021. URL: <https://zenodo.org/records/5101018>.