

1. Image Segmentation:

I wrote a Python script to perform image segmentation using YOLOv8. I provided a file path for the input images and saved the segmented results into an output folder.

2. Video to Frame Conversion:

For video segmentation, I used ffmpeg and added it to my system path.

I used the following command to extract frames from the input video (which was already present in the folder):

```
ffmpeg -i Inputvid.mp4 -vf fps=1 frames/frame_%04d.jpg
```

3. Frame Segmentation and Video Reconstruction:

I passed the extracted frames through the YOLO model to get the segmented frames.

Finally, I reassembled the segmented frames into a video using the following command:

```
ffmpeg -framerate 1 -i Seg-Frames/frame_%04d.jpg -c:v libx264 -r 30 -pix_fmt yuv420p segmented_video.mp4
```

Thank you!