**ReadMe**

The **general format** for running the code is as follows:

*python3 main.py (--resize|--remove) --input <input image path> --output<output image path> [--input\_mask| --remove\_mask]<path of masked object to be preserved| path of masked object to be removed> (--forward\_energy(by default backward energy is done) (--nh --nw)<if --resize>*

**Flags used:**

***--resize:*** give this flag to resize the image

***--remove:*** give this flag to remove an object from the image

***--input:***Input Image path

***--output:***Output Image Path

***--input\_mask:***path of masked object to be preserved

***--remove\_mask****:* path of masked object to be removed, if and only if remove flag is set

***--forward\_energy:***To use the forward energy map (by default backward energy is used)

***--nh:*** if resize is true then provide the new height

***--nw****:* if resize is true then provide the new width

As part of the artifact, you can find all the images we used for experimenting in the **in** folder. The output image will be stored in the **out** folder once the code is run successfully.

**Some Command Examples:**

**Object Resize using Backward Energy without Input Mask:**

python3 main.py --resize --input in/landscape.jpg --output out/landscape\_op\_be --nh 300 --nw 400

**Image Resize using Backward Energy with Input Mask:**

python3 main.py --resize --input in/car.jpg --output out/car\_op\_mask\_fe.jpg --nh 500 --nw 600 --forward\_energy --input\_mask in/car\_mask.jpg

**Image Resize using Forward Energy:**

python3 main.py --remove --input ./in/Bros.jpg --output ./out/bros\_i\_fe\_remove.jpg --input\_mask ./in/Bros\_i\_mask.jpg --remove\_mask ./in/Bros\_r\_mask.jpg --forward\_energy

**Object Removal Using Backward Energy and Remove Mask:**

python3 main.py --remove --input ./in/birds.jpeg --output ./out/birds\_be\_remove.jpeg --remove\_mask ./in/birds\_mask.jpg

**Object Removal Using Forward Energy and Remove Mask:**

python3 main.py --remove --input ./in/fed.jpeg --output ./out/fed\_fe\_remove.jpeg --remove\_mask ./in/fed\_mask.jpg --forward\_energy