How to run

1. Download *CS_Project_Demo.ipynb* from the zip file
2. Download *my_checkpoint.pth.tar* from the following link and upload it to your preferred path in your google drive

   https://drive.google.com/file/d/1f0yFRi0UM9rOPQeinWOODKVgwjH-BkYL/view?usp=sharing
3. Open google collaborator and make sure that you install and import these libraries

   [The required installation is already included in the *CS_Project_Demo.ipynb*]

   ```
   pip install timm
   pip install pyyaml==5.1
   pip install ffmpeg-python

   import os
   import torch
   import torch.nn as nn

   import cv2
   import ffmpeg
   from tqdm import tqdm
   ```
4. Upload *my_checkpoint.pth.tar* to your google drive
5. Upload the target video to your google drive
6. Specify your sources directory (both video and model if you place them in different path)

   For example:

   ```
   input_folder_path = "/content/drive/MyDrive/Colab Notebooks/Your path"
   ```
7. Define the UNET model and make sure the model architecture matches the architecture of the saved checkpoint

   [The model architecture is already defined in the *CS_Project_Demo.ipynb*]
8. Make sure that you define the correct path of the model

```
model.load_state_dict(torch.load(input_folder_path+"/my_checkpoint.pth.tar")["state_dict"])
```

9. In this code line, change *'/vdo_2.mp4'* to your video filename

```
vidcap = cv2.VideoCapture(os.path.join(input_folder_path+"/vdo_2.mp4"))
```

10. Run all cells in CS_Project_Demo.ipynb
11. Download the output file from the Files tab