RESOURCES

1) LA Playlist:
https://www.youtube.com/playlist?list=PLZHQObOWTQDPD3MizzM2xVFitgF8hE_ab

2) Article on GANs:
https://towardsdatascience.com/generative-adversarial-networks-gans-8fc303ad5fa1

3) Coursera course(Deep learning-All 5):-
https://www.coursera.org/specializations/deep-learning

4) Coursera course youtube playlist:
https://youtube.com/playlist?list=PLpFsSf5Dm-pd5d3rjNtlXUHT-v7bdaEIe

5) 3B1B Neural network playlist:
https://www.youtube.com/playlist?list=PLZHQObOWTQDNU6R1_67000Dx_ZCJB-3pi

6) Research paper GANs:
https://arxiv.org/pdf/1611.07004.pdf

7) Sketch-2-paint article:
https://towardsdatascience.com/generative-adversarial-networks-gans-89ef35a60b69

8) Notes of DL course of coursera:
https://github.com/amanchadha/coursera-deep-learning-specialization/blob/master/C1%20-%20Neural%20Networks%20and%20Deep%20Learning/Notes/Readme.md

9) Python playlist:

https://www.youtube.com/watch?v=_55G24aghPY&list=PL98nY_tJQXZnP-k3qCDd1hljVSciDV9_N

10) GANs playlist:

https://www.youtube.com/playlist?list=PLdxQ7SoCLQAMGgQAIAcyRevM8VvygTpCu

11) Face-aging research paper(using IPCGANs):

https://openaccess.thecvf.com/content_cvpr_2018/papers/Wang_Face_Aging_With_CVPR_2018_paper.pdf

12) Concepts of GANs:
https://machinelearningmastery.com/what-are-generative-adversarial-networks-gans/

13) Face-aging research paper(using CGANs):
https://arxiv.org/pdf/1702.01983.pdf

14) Face aging repo using pytorch and CGANs:
https://github.com/nithiroj/face-aging-cGAN-with-pytorch

15) Intuition of GANs:
Generative Adversarial Networks (GANs) - Computerphile

16) CNN playlists:
Video1:
How Convolutional Neural Networks work
Video2:
How convolutional neural networks work, in depth
Video3:
Convolutional Neural Networks - The Math of Intelligence (…

17) Tensorflow tutorials:
https://www.tensorflow.org/tutorials/keras/classification
https://www.tensorflow.org/tutorials/keras/save_and_load
https://www.tensorflow.org/tutorials/load_data/images

18) GITHUB REPO OF PROJECT
tejasmorkar/sketch-to-color: Sketch to Color Image Generation Using Conditional GANs (github.com)

19) Cuda problem solution
https://medium.com/mlearning-ai/tensorflow-2-4-with-cuda-11-2-gpu-training-fix-87f205215419

https://towardsdatascience.com/installing-tensorflow-with-cuda-cudnn-and-gpu-support-on-windows-10-60693e46e781

20) nvidia-smi:-
https://stackoverflow.com/questions/57100015/how-do-i-run-nvidia-smi-on-windows

21) Check if you have gpu in pc or not
https://www.howtogeek.com/414201/how-to-check-what-graphics-card-gpu-is-in-your-pc/

22) Upsampling and Downsampling Article
https://medium.com/analytics-vidhya/downsampling-and-upsampling-of-images-demystifying-the-theory-4ca7e21db24a

23) UNET ARCHITECTURE
Understanding Semantic Segmentation with UNET | by Harshall Lamba | Towards Data Science

24) INFORMATION RELATED TO LOSSES

What is loss in deep learning?
Training a model simply means learning (determining) good values for all the weights and the bias from labeled examples. In supervised learning, a machine learning algorithm builds a model by examining many examples and attempting to find a model that minimizes loss; this process is called empirical risk minimization. Loss is the penalty for a bad prediction. That is, loss is a number indicating how bad the model's prediction was on a single example. If the model's prediction is perfect, the loss is zero; otherwise, the loss is greater. The goal of training a model is to find a set of weights and biases that have low loss, on average, across all examples

Generator Loss:-
Generator loss While the generator is trained, it samples random noise and produces an output from that noise. The output then goes through the discriminator and gets classified as either “Real” or “Fake” based on the ability of the discriminator to tell one from the other. The generator loss is then calculated from the discriminator’s classification – it gets rewarded if it successfully fools the discriminator, and gets penalized otherwise. The following equation is minimized to training the generator:

$$\nabla_{\theta_g} \frac{1}{m} \sum_{i=1}^{m} \log \left(1 - D\left(G\left(z^{(i)}\right)\right)\right)$$

What are L1 and L2 loss functions?
https://afteracademy.com/blog/what-are-l1-and-l2-loss-functions

Generator and Discriminator Loss
https://www.tensorflow.org/tutorials/generative/pix2pix

Meaning of @tf.function
tf.function is a decorator function provided by Tensorflow 2.0 that converts regular python code to a callable Tensorflow graph function, which is usually more performant and python independent. It is used to create portable Tensorflow models.

What is Binary Cross entropy loss function?
https://peltarion.com/knowledge-center/documentation/modeling-view/build-an-ai-model/loss-functions/binary-crossentropy

What is Gradient Tape?
Introduction to gradients and automatic differentiation (tensorflow.org)