3. Project Facial Key Point Detection

1. Custom Dataset class
   1. Override methods such as \_\_len\_\_ and \_\_getitem\_\_
      1. \_\_len\_\_ so that len(dataset) returns the size of the dataset.
      2. to support the indexing such that dataset[i]
   2. Uniformly apply transformations to the dataset.
2. Constructing different custom transform classes using transforms from torchvision
3. For custom data, you first create a Dataset class and then apply transformations on it using transformation classes defined eg. Normalize, Randomcrop and put them together using transforms.Compose
4. Dataset class can allow to iterate over the data using a for loop but in order to batch the data and shuffle the data, we can use DataLoader Class.
5. The custom dataset class inherits from Dataset and allows to easily transform the images by passing it as an argument while creating the dataset.
   1. Tranform was created by composing the pipeline.
6. It’s a good practice to check what your network outputs without any training.
   1. To do this, you will need to do un-transformation of the data first.

4. Project Image Captioning

1. Always take care to properly define DataLoader and DataSet classes.
2. batch\_sampler

5. Optical Flow

1. calcOpticalFlowPyrLK can be used to calculate optical flow