Intro to DL hands-on report

*Student Information*

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# I, Transformations

* I use those transformations toward train set:

+ Normalize(mean=(0.485, 0.456, 0.406), std=(0.229, 0.224, 0.225)), (normalize the images to feed into the model)

+ HorizontalFlip(),

+ VerticalFlip(),

+ RandomBrightnessContrast(),

+ HueSaturationValue(),

+ Rotate(limit=30, p=0.5),

+ ToTensorV2()

# II, Model Architecture: Classic Unet

* Encoder:

+ I used ResNet-34 as the encoder in my UNet model.

+ This encoder was pre-trained on the ImageNet dataset, which provides robust feature extraction capabilities.

+ The encoder processes the input image in a downsampling manner, extracting hierarchical features at different levels.

* Decoder:

+ The decoder reconstructs the segmentation map from the encoded features.

+ It uses upsampling layers combined with skip connections from the encoder to ensure fine-grained spatial details are preserved.

# III, Loss graph

A screenshot of a computer

Description automatically generated