Data Collection and Preprocessing Phase

Date	15 March 2024
Team ID	SWTlD1720439521
Project Title	Covidvision: Advanced Covid-19 Detection From Lung X-Rays With Deep Learning
Maximum Marks	6 Marks

Preprocessing Template

The images will be preprocessed by resizing, normalizing, augmenting, denoising, adjusting contrast, detecting edges, converting color space, cropping, batch normalizing, and whitening data. These steps will enhance data quality, promote model generalization, and improve convergence during neural network training, ensuring robust and efficient performance across various computer vision tasks.

Section	**Description**
Data Overview	This dataset is divided in the ration 75:25 and contains the images of Covid positive, normal and viral pneumonia.
Resizing	Resize images to a specified target size.
Normalization	Normalize pixel values to a specific range.
Data Augmentation	Apply augmentation techniques such as flipping, rotation, shifting, zooming, or shearing.
Image Cropping	Crop images to focus on the regions containing objects of interest.
Data Preprocessing Code Screenshots	

Loading Data	`data_path_train=r"C:\Users\lohit\OneDrive\Desktop\project\team_dataset\train"` `data_path_test=r"C:\Users\lohit\OneDrive\Desktop\project\team_dataset\test"`

Resizing	`img_size=120`
	`img_transform=transforms.Compose([transforms.Resize((img_size,img_size)),`
	`transforms.RandomHorizontalFlip(),`
	`transforms.ToTensor(),`
	`transforms.Normalize(mean=[0.485,0.456,0.475],std=[0.229,0.224,0.225])])`

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	`img_transform=transforms.Compose([transforms.Resize((img_size,img_size)),`
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Data Augmentation	`img_size=120`
	`img_transform=transforms.Compose([transforms.Resize((img_size,img_size)),`
	`transforms.RandomHorizontalFlip(),`
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	`transforms.Normalize(mean=[0.485,0.456,0.475],std=[0.229,0.224,0.225])])`

\Image Cropping	`for img,label in train_loader:`
	`print(img.shape)`
	`break`