# Data Collection and Preprocessing Phase

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| Date | 3rd July 2024 |
| Team ID | LTVIP2026TMIDS91062 |
| Project Title | Dog Breed Identification Using Transfer 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** |
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| Data Overview | Give an overview of the data, which you're going to use in your project. |
| 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. |
| Denoising | Apply denoising filters to reduce noise in the images. |
| Edge Detection | Apply edge detection algorithms to highlight prominent edges in the images. |

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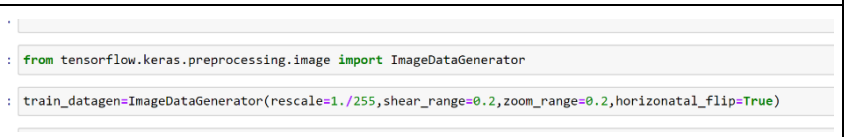
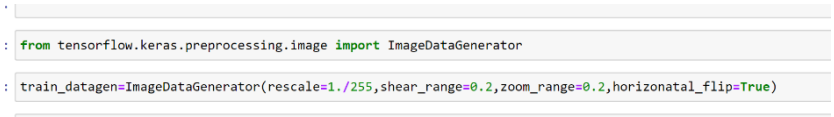
| Color Space Conversion | Convert images from one color space to another. |
| Image Cropping | Crop images to focus on the regions containing objects of interest. |
| Batch Normalization | Apply batch normalization to the input of each layer in the neural network. |
| **Data Preprocessing Code Screenshots** | |
| Loading Data |  |
| Resizing |  |
| Normalization |  |
| Data Augmentation |  |
| Denoising | Give the code snippet as an image (copy and paste the picture in this block). |
| Edge Detection | Give the code snippet as an image (copy and paste the picture in this block). |

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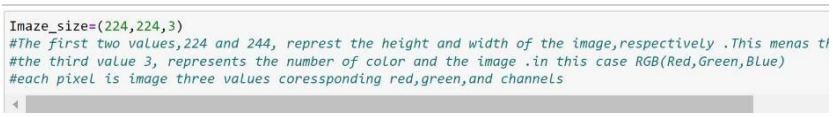
| Color Space Conversion |  |
| Image Cropping | Give the code snippet as an image (copy and paste the picture in this block). |
| Batch Normalization | Give the code snippet as an image (copy and paste the picture in this block). |