No	Model	Accuracy
1	ResNet50	96.48%
2	DenseNet121	95.70%
3	EfficientNetB0	94.92%
4	InceptionV3	96.22%
5	**VGG16**	**96.61%**

The best performing model is VGG16 with a validation accuracy of 96.61%
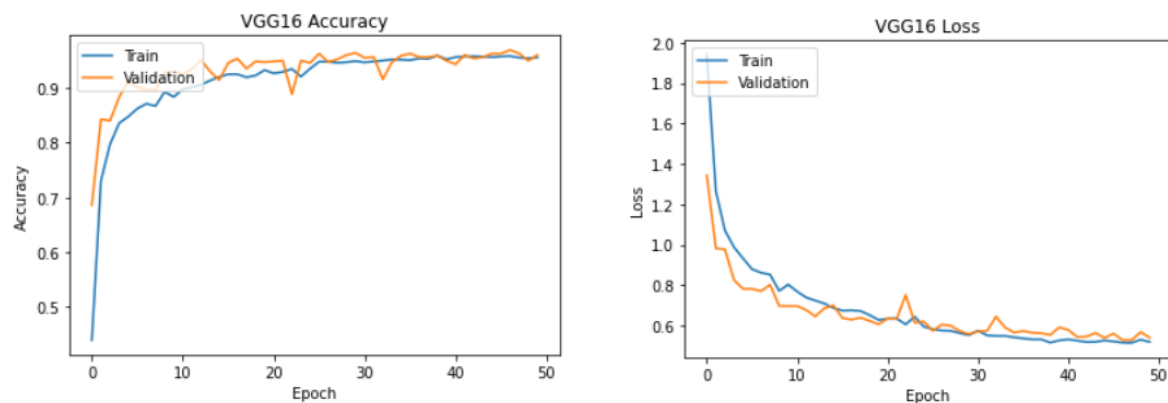
The **VGG16 model** appears to be performing well. The high and stable validation accuracy, along with the minimal gap between training and validation metrics, indicates that the model is neither underfitting nor overfitting.

Accuracy Plot:

- The training and validation accuracy improve consistently in the early epochs and converge to high values (~0.95–1.0), which suggests that the model is learning effectively.
- There is no significant divergence between training and validation accuracy, indicating the absence of overfitting.

Loss Plot:

- Both training and validation loss decrease steadily and stabilize after several epochs.
- The validation loss remains close to the training loss, which further supports that the model generalizes well to unseen data.

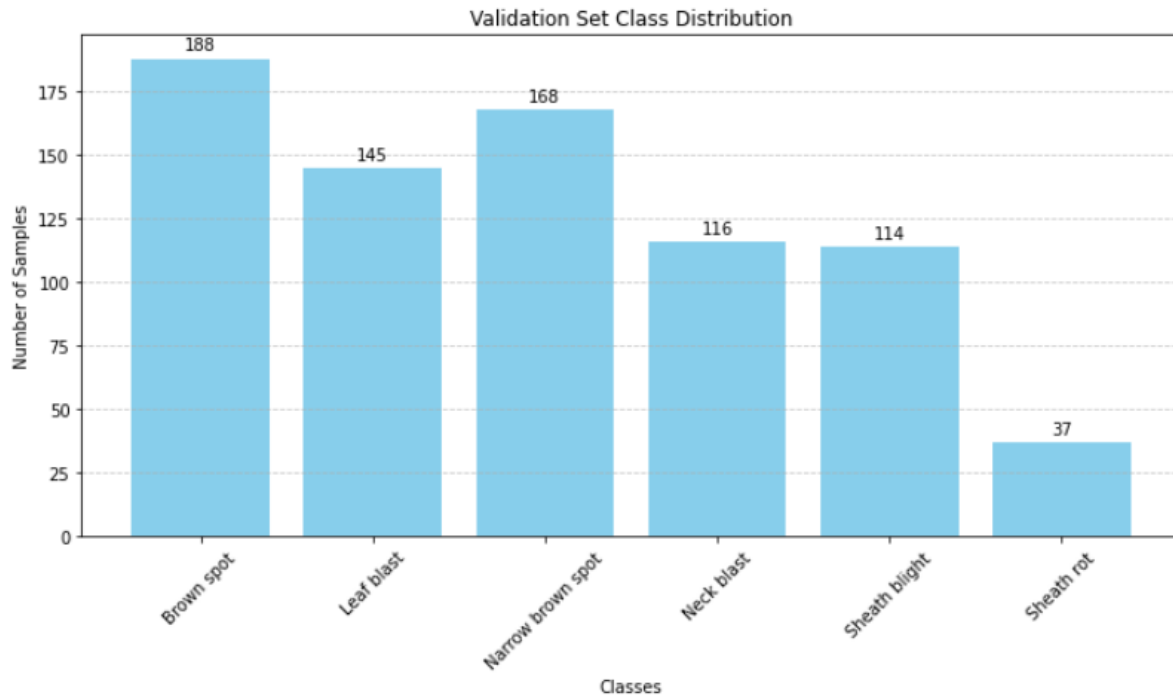# 80 – 20 [80% Training Set & 20% Validation Set]

Visualize Class Distribution of Training Set
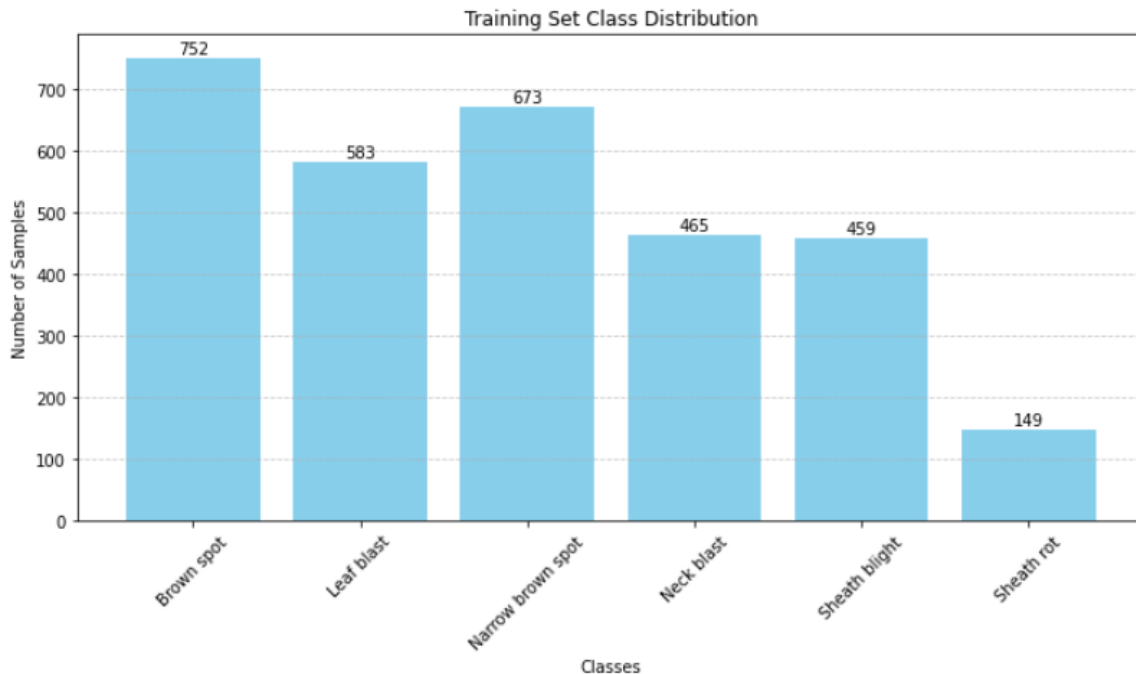
This bar chart represents the class distribution of the training set for a Crop disease classification. The x-axis lists the different disease classes, including "Brown spot," "Leaf blast," "Narrow brown spot," "Neck blast," "Sheath blight," and "Sheath rot." The y-axis shows the number of samples available for each class.

From the chart, it is evident that the "Brown spot" class has the highest number of samples (752), followed by "Narrow brown spot" (673) and "Leaf blast" (583). The classes "Neck blast" and "Sheath blight" have a similar number of samples, with 465 and 459 samples, respectively. The "Sheath rot" class has the fewest samples, with only 149, indicating a significant class imbalance in the dataset.

Visualize Class Distribution of Validation Set

This bar chart illustrates the class distribution of the validation set for a Crop disease classification task. The x-axis displays the various disease classes: "Brown spot," "Leaf blast," "Narrow brown spot," "Neck blast," "Sheath blight," and "Sheath rot." The y-axis represents the number of samples available for each class in the validation dataset.

The "Brown spot" class has the highest representation with 188 samples, followed closely by the "Narrow brown spot" class with 168 samples. The "Leaf blast" class has 145 samples. The classes "Neck blast" and "Sheath blight" have similar sample sizes, with 116 and 114 samples, respectively. And the "Sheath rot" class with only 37 samples.