**Dog Breed Classifier**

**Abstract:**

Dog breed categorization is a very specific application of convolutional neural networks. It falls under the category of fine-grained image classification problem, where inter-class variations are small and often one small part of the image considered makes the difference in the classification.

### **Network Used :** CNN

### **Layers in the network :**

### Model: "sequential\_7"

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Layer (type) Output Shape Param #

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conv2d\_29 (Conv2D) (None, 60, 60, 128) 9728

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max\_pooling2d\_29 (MaxPooling (None, 58, 58, 128) 0

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dropout\_35 (Dropout) (None, 58, 58, 128) 0

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batch\_normalization\_29 (Batc (None, 58, 58, 128) 512

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conv2d\_30 (Conv2D) (None, 56, 56, 64) 73792

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max\_pooling2d\_30 (MaxPooling (None, 54, 54, 64) 0

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dropout\_36 (Dropout) (None, 54, 54, 64) 0

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batch\_normalization\_30 (Batc (None, 54, 54, 64) 256

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conv2d\_31 (Conv2D) (None, 52, 52, 32) 18464

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max\_pooling2d\_31 (MaxPooling (None, 50, 50, 32) 0

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dropout\_37 (Dropout) (None, 50, 50, 32) 0

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batch\_normalization\_31 (Batc (None, 50, 50, 32) 128

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conv2d\_32 (Conv2D) (None, 48, 48, 32) 9248

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max\_pooling2d\_32 (MaxPooling (None, 46, 46, 32) 0

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dropout\_38 (Dropout) (None, 46, 46, 32) 0

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batch\_normalization\_32 (Batc (None, 46, 46, 32) 128

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conv2d\_33 (Conv2D) (None, 44, 44, 32) 9248

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max\_pooling2d\_33 (MaxPooling (None, 42, 42, 32) 0

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dropout\_39 (Dropout) (None, 42, 42, 32) 0

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batch\_normalization\_33 (Batc (None, 42, 42, 32) 128

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global\_average\_pooling2d\_1 ( (None, 32) 0

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dense\_12 (Dense) (None, 10) 330

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Total params: 121,962

Trainable params: 121,386

Non-trainable params: 576

### **Accuracy Score:**

### **Confusion Matrix :**

### **Dataset :**Dataset was downloaded from Kaggle.

### **Contributors :**

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