

#### **PROJECT**

## Dog Breed Classifier

A part of the Artificial Intelligence Nanodegree Program

PROJECT REVIEW
CODE REVIEW
NOTES

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## Meets Specifications

You've successfully implemented the required changes from the previous reviewer and this project now meets all specifications. Well done!

This project submission demonstrates a good understanding and enthusiasm for the area of deep learning on your part.

Keep up the great work and I hope you're enjoying the program  $\biguplus$ 

#### Files Submitted

The submission includes all required files.

## Step 1: Detect Humans

The submission returns the percentage of the first 100 images in the dog and human face datasets with a detected human face.

The submission opines whether Haar cascades for face detection are an appropriate technique for human detection.

Your answer is perfectly reasonable and you've provided thorough suggestions for improvements to offer a better user experience. Great work!

## Step 2: Detect Dogs

The submission returns the percentage of the first 100 images in the dog and human face datasets with a detected dog.

# Step 3: Create a CNN to Classify Dog Breeds (from Scratch)

The submission specifies a CNN architecture.

Great work!



The trained model attains at least 1% accuracy on the test set.

#### Step 5: Create a CNN to Classify Dog Breeds

The submission downloads the bottleneck features corresponding to one of the Keras pre-trained models (VGG-19, ResNet-50, Inception, or Xception).

The submission specifies a model architecture.

The submission details why the chosen architecture succeeded in the classification task and why earlier attempts were not as successful.

The submission compiles the architecture by specifying the loss function and optimizer.

The submission uses model checkpointing to train the model and saves the model weights with the best validation loss.

The submission loads the model weights that attained the least validation loss.

Accuracy on the test set is 60% or greater.

The submission includes a function that takes a file path to an image as input and returns the dog breed that is predicted by the CNN.

## Step 6: Write Your Algorithm

The submission uses the CNN from Step 5 to detect dog breed. The submission has different output for each detected image type (dog, human, other) and provides either predicted actual (or resembling) dog breed.

# Step 7: Test Your Algorithm

The submission tests at least 6 images, including at least two human and two dog images.

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