Pupper Lovers

With:

Manisha Jaiswal, Taylor Kramer, John Santiago

Topic Area – Determining dog breeds through images.

Project Name – "Dog Breed Image Identifier"

Problem Statement – Given a picture of a dog, how can we create a model that will help us identify the breed? We chose this problem statement because we like dogs and found it useful to apply some method of deep learning to a real-world application. Also, with so many dogs breed it's hard to accurately determine quickly what dog breed it is based off one's knowledge.

Proposed Solution –
https://www.kdnuggets.com/2020/06/build-dog-breeds-classifier-aws-sagemaker.html
We are looking to base our project off the data and maybe some of the concepts described at the website linked above. Instead of using AWS Sagemaker we plan to take a different approach that better aligns with the concepts and skills discussed in this course. We are considering tapping into neural networks and using libraries such as TensorFlow and Scikit-Learn. The data going into the model are the pictures (in the form of tensors or arrays) along with the labels and the output would ideally be the correctly identified dog breed for the dog in each test image.

- The reason why traditional methods don't work for a problem like this is because knowing a dog breed based on a picture isn't something that comes naturally to anyone who isn't an expert on dogs. Since this is also a topic of interest to many, we see this being a rather applicable problem outside this course.

Data – Provided at link above. (Images, Lists with train/test splits, Train Feature, Annotations, Train Features, Test Features). We are going to download the data from the link above. There are about 20,580 images of 120 different dog breeds, and they are all labelled as such.

Timeline (Listing participating team members in parenthesis) –

04/24/2021 – Finished Project Proposal (Manisha, Taylor, John)

05/01/2021 – Model code is up and running properly, model at this point is not expected to work on predicting effectively yet. (Manisha, Taylor, John)

05/02/2021 – Update – Report Submittal / Peer Reviews of Reports. (Manisha, Taylor, John)

05/08/2021 – Model is predicting dog breeds with high accuracy. (Manisha, Taylor, John)

Week of 05/09/2021 – Working of final video. (Manisha, Taylor, John)

05/13/2021 – Final Video – Video Submittal / Peer Review Videos. (Manisha, Taylor, John)

Overview of Team member task assignments:
Taylor – preprocessing data and creating model outline.
Manisha – deep dive researching model parameters.
John – Start looking into how we are going to best report our results

➔ But ideally, we all are working together so that everyone can learn from each other.