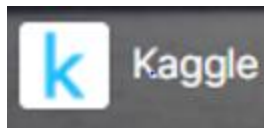


Dog Breed Identification

Determine the breed of a dog in an image



[Notebook:](#)

https://github.com/nilakshgupta/TDI-Challenge--04-16-2021/blob/master/Copy_of_04_16_21_of_dog_vision_1.ipynb

PROJECT PROPOSAL BY: NILAKSH GUPTA

Overview

Data Source:

<https://www.kaggle.com/c/dog-breed-identification>

- It's a multi-class image classification and consists of a collection of 10,000+ labelled images of 120 different dog breeds.
- We are provided with a strictly canine subset of [ImageNet](#) in order to practice fine-grained image categorization.

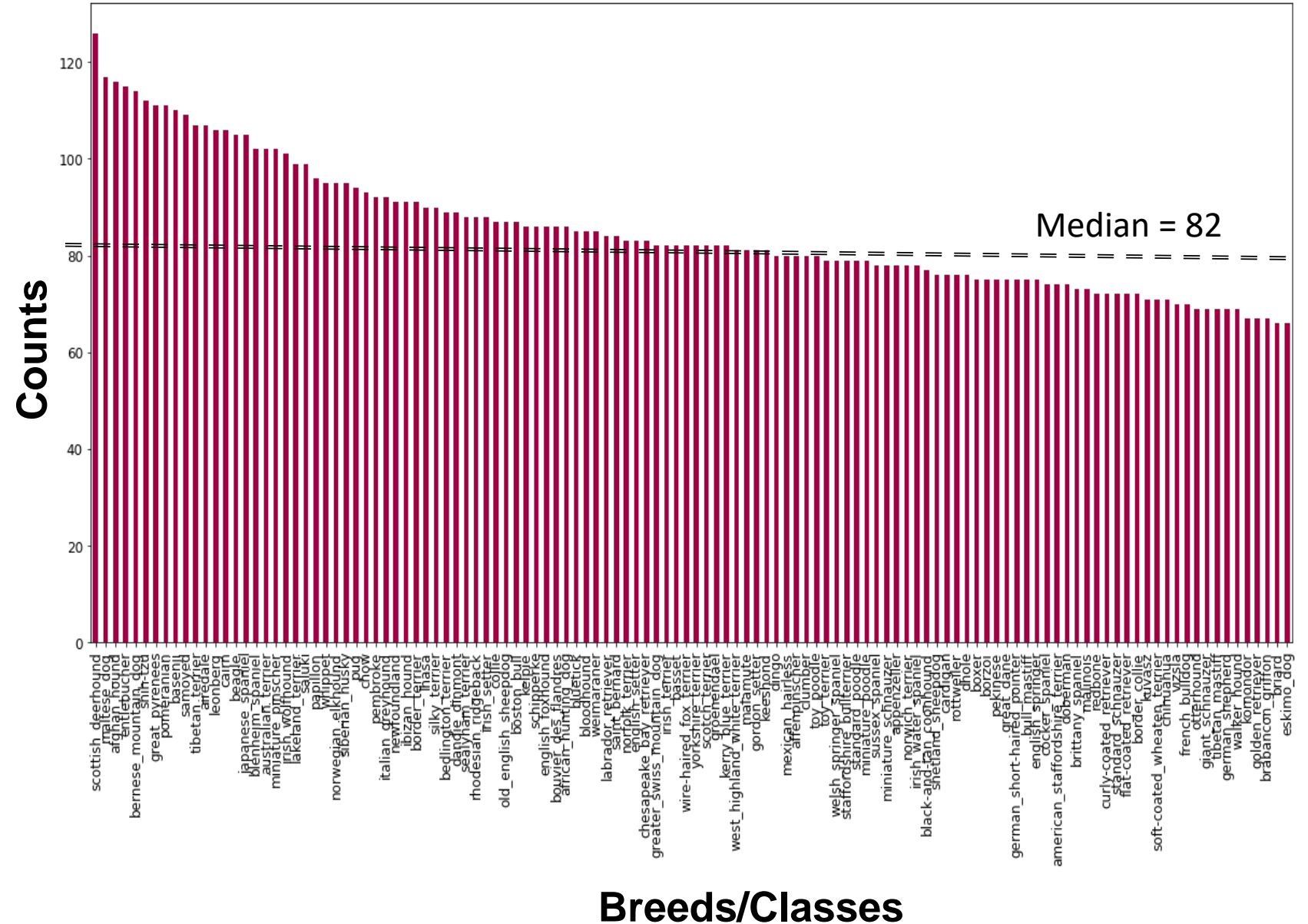
Aim:

The goal of this capstone project is to build a model that can recognize the dog breed given an image of a dog. The inspiration for this capstone project stems from personal observation that the humans are not that adept at recognizing the breed of a dog simply by looking at the image. The anticipated market value of the proposal would be that businesses can use my application for targeted marketing based on social media (Facebook, twitter etc.) posts.

Initial data exploration and preprocessing

Not enough Training examples:

There are approximately 70+ images per breed and this is not enough for training a deep neural network including CNN.



Potential approaches to be considered:

- **Data Augmentation**
- **Feature Extraction using Transfer learning**
- **Use CNN Architectures for transfer learning**



References

https://keras.io/guides/transfer_learning/

<https://keras.io/api/layers/regularizers/>

<https://keras.io/api/preprocessing/image/>

https://theailearner.com/2019/07/06/imagedatagenerator-flow_from_dataframe-method/

<https://arxiv.org/abs/1512.00567>

Thank You!
