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MAIS 202 - Project Deliverable 1

1. Dataset

   My project idea is to create a bird call identifier. The dataset I will be using will come from https://www.kaggle.com/c/birdsong-recognition/data which is funded by the Cornell Lab of Ornithology's Center for Conservation Bioacoustics[1]. which was uploaded by users from xeno-canto.org. There are over 20 000 mp3 files and a csv file that refers each recording to the bird species, this will make classifying easier as the groups to classify are already known. I will be using this dataset as it has a large quantity of recordings.

2. Methodology
   a. I believe the dataset is feasible as it contains many recordings and the complementary csv contains lots of useful information for each recording such as the species, location and date of the recording as bird calls change based on their location and the time of year. Although the data will require a lot of pre screening as the audio files are not very clean.

   b. I want to be able to give the machine learning model a recording of some bird call and have the model identify the bird. I will use a simple classifier like k-nearest neighbours(KNN) as this model predicts outcomes based on how close the prediction is to its k-nearest neighbours. Since we are classifying the bird calls then this model should work well for this project.

   c. Since this is a classification problem then I will be using a confusion matrix. The data set includes a few test files that have multiple bird calls in a single audio file and I will be using those for analysis.

3. Application

   I plan on integrating my model into a simple webapp that will allow you to upload a recording of a bird call and the webapp will attempt to identify the species of bird in the recording.

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[1] Cornell birdcall Identification. (n.d.). Retrieved February 07, 2021, from https://www.kaggle.com/c/birdsong-recognition/data