

## Capstone 3 Project Proposal

Numan Bird Watch is an international organization of bird conservation and exploration of new species of birds. They are currently building a large database of images in different species of birds and have tasked me to properly create a model which identifies different species. They have great explorer who take high quality images of birds across the globe, but the explorer cannot always properly identify which bird they have taken a photo off. I am tasked with creating a robust model which can classify 315 different species with high accuracy.

The dataset is from Kaggle here is a [link](#), it provides us with over 49k birds of 315 species, all being 224 X 224 X 3 color images in JPG format. With such high quality images we will be able to try various methods to come up with the best results such as CNN(Convolutional neural network) to process all pixel data, utilize transfer learning and pre-trained models in-order to compare and contrast results from our models, unlike my last capstone of NYC housing prediction, where the dataset was quite dirty and difficult to clean, this dataset is quite clean, and allows for better analysis, and feature extraction process.

I will look to provide in-depth analysis of different facets of image classification, feature extraction and comparing results of my sand-box models to pre-trained models from larger datasets and ultimately to achieve the best results possible in properly classifying each bird species.