

Bird Classification with CNNs

This project uses convolutional neural networks to classify different species of birds with high accuracy. The model is a series of three blocks made from convolution layers, ReLU layers, and max pooling layers with a classifier attached to the end made from linear layers with high dropout to avoid overfitting. It was trained on a dataset containing more than 80,000 images of 525 different bird species and achieved 84% accuracy during testing. Training accuracy peaks at about 90% and validation accuracy peaks at 84% as well. Nearly every male bird sent through the model is classified correctly while female birds have a high error due to the fact that they often have less prominent features with duller coloring, and they can look completely different from the males. Further improvements could be made by doubling the number of classes by splitting each bird by sex and by increasing the size of the convolution kernels to capture larger features such as bird shape.