

A stylized illustration of a bird with blue and orange plumage perched on a dark branch. The branch is adorned with orange leaves and green berries. The background is a light beige color with scattered blue and red berries.

Bird Identification

Emily Rogalski

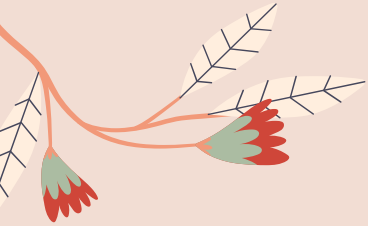
Introduction

Building community interest in local wildlife is a great way to protect and preserve the natural beauty of the planet. Birds are an important part of every ecosystem, and many species are rare or endangered.



Goal

Build a model that will identify North American birds in order to make science more easily accessible and cultivate community interest



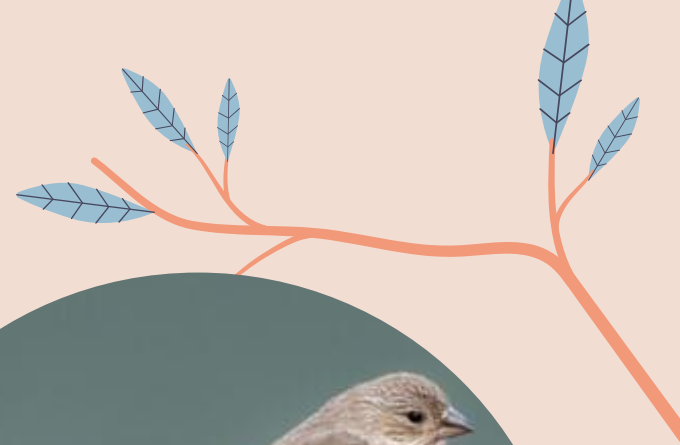
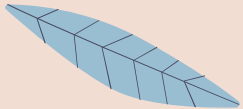
The Data

- ❑ 48,562 images
- ❑ 555 classes
- ❑ from Cornell Lab of Ornithology



Considerations

- ❑ Female and male birds of the same species have different colorations and shapes
- ❑ Juvenile birds look completely different than adults

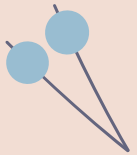


The Model

- ❑ EfficientNet - B0
- ❑ Resolution: 224 x 224
- ❑ Image augmentation:
vertical flip and rotation,
cropped images
- ❑ Accuracy: **0.81** for 555
classes



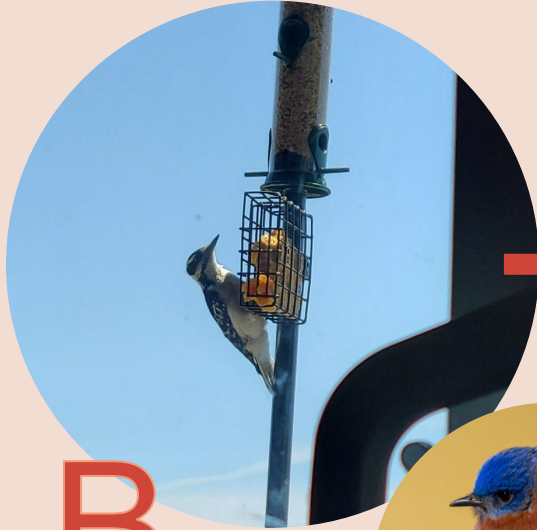
Misclassifications



A



Misclassifications



B



C



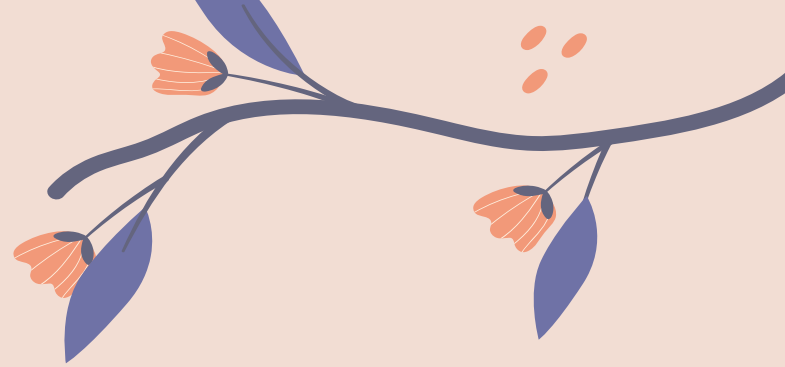


Streamlit App



Next Steps

- ❑ Continue increasing accuracy
- ❑ Add tilt option to crop box on Streamlit app?
- ❑ Eventual goal: pair model with cameras at feeders





Thanks!

Do you have any questions?

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