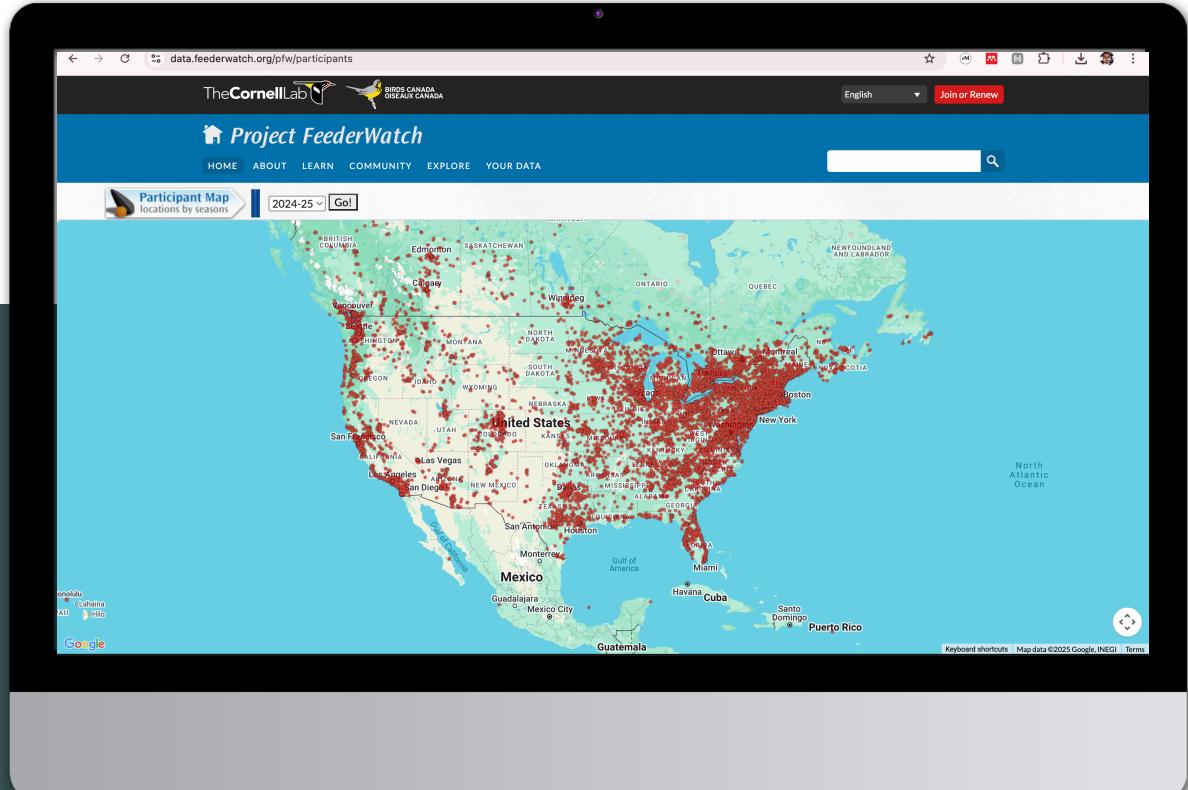


# BirdAI

By Jake McCaig

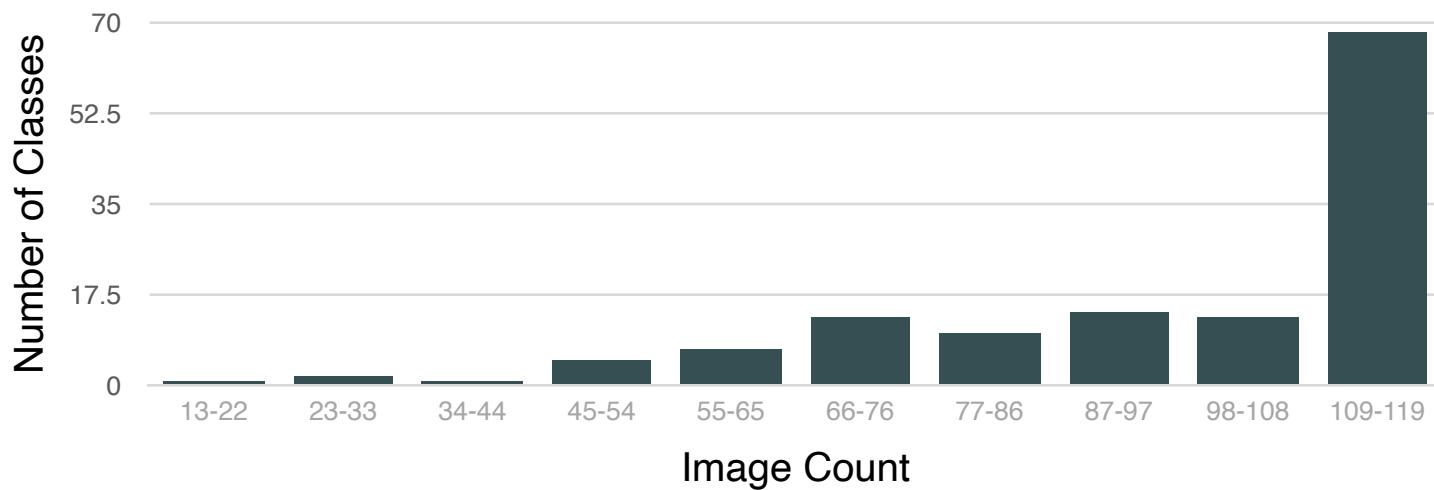


# Supporting FeederWatch Through Automation



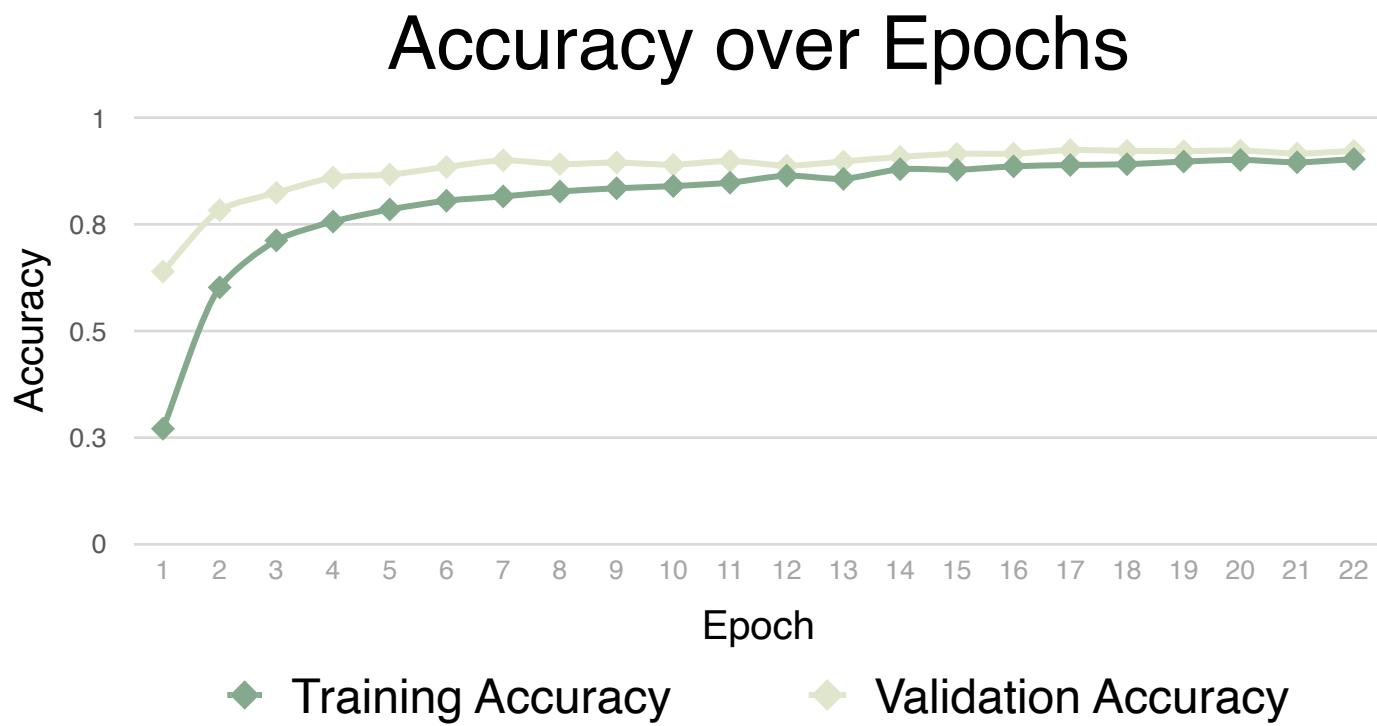
# *From NABirds to Feeder Species*

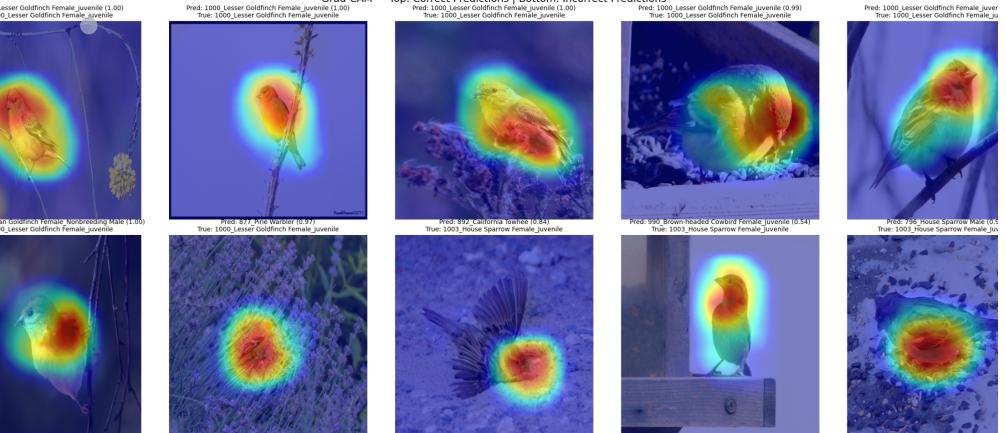
## Number of Classes by Image Count





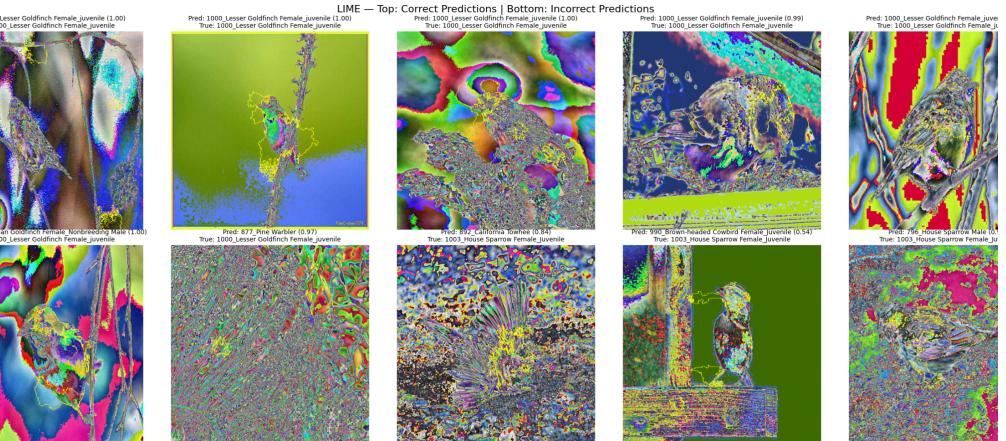
# Transfer Learning with EfficientNet-B7





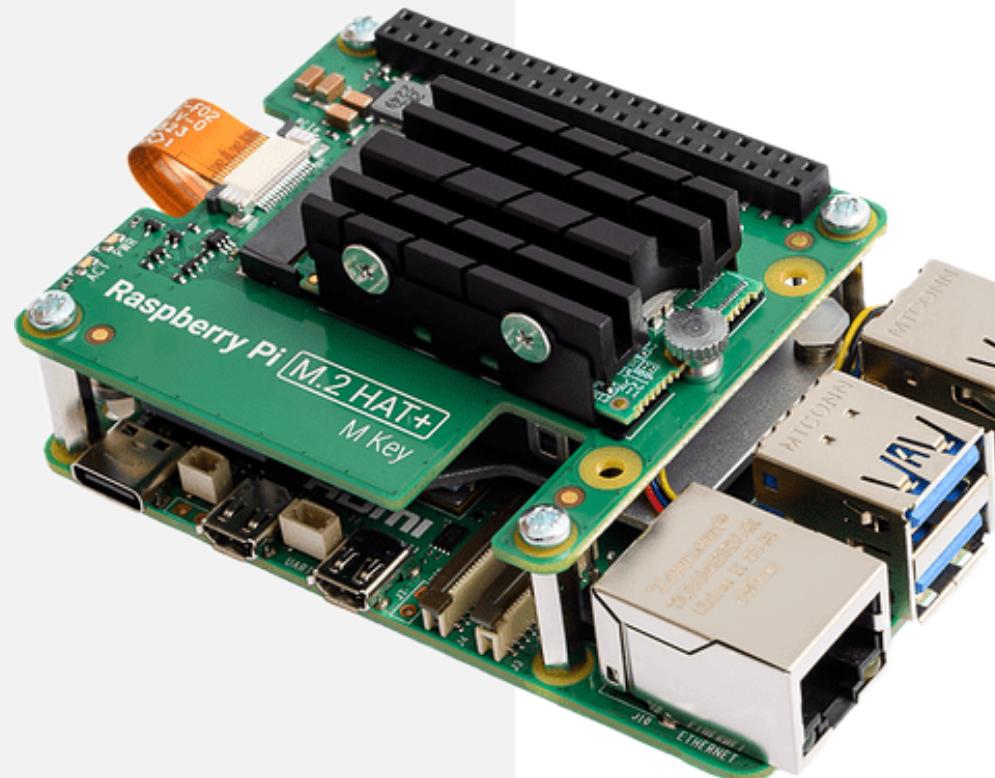
## GRAD-CAM + LIME

# 92.5% Accuracy and Model Transparency





# Real-Time Classification on a Raspberry Pi



The smartphone screen shows the Birdwatcher app interface. At the top, it displays the URL "birdpi.local". The main header reads "Birdwatcher". Below the header, there's a summary section for "TODAY" (Saturday, May 17) showing weather information (partly cloudy, 59°F) and visit history (no visits yet). A "TODAY'S VISITS" section shows 0 visits. The "Accepted Visits" section displays two images of bird feeders with house exteriors in the background. Below the images, the text "Pine Grosbeak (Adult Male)" is shown along with a confidence score of 0.7199 and the timestamp 2025-05-16 19:05:21.

birdpi.local

Birdwatcher

TODAY  
17 Saturday, May 17

WEATHER  
59°F

MOST RECENT  
No visits yet today

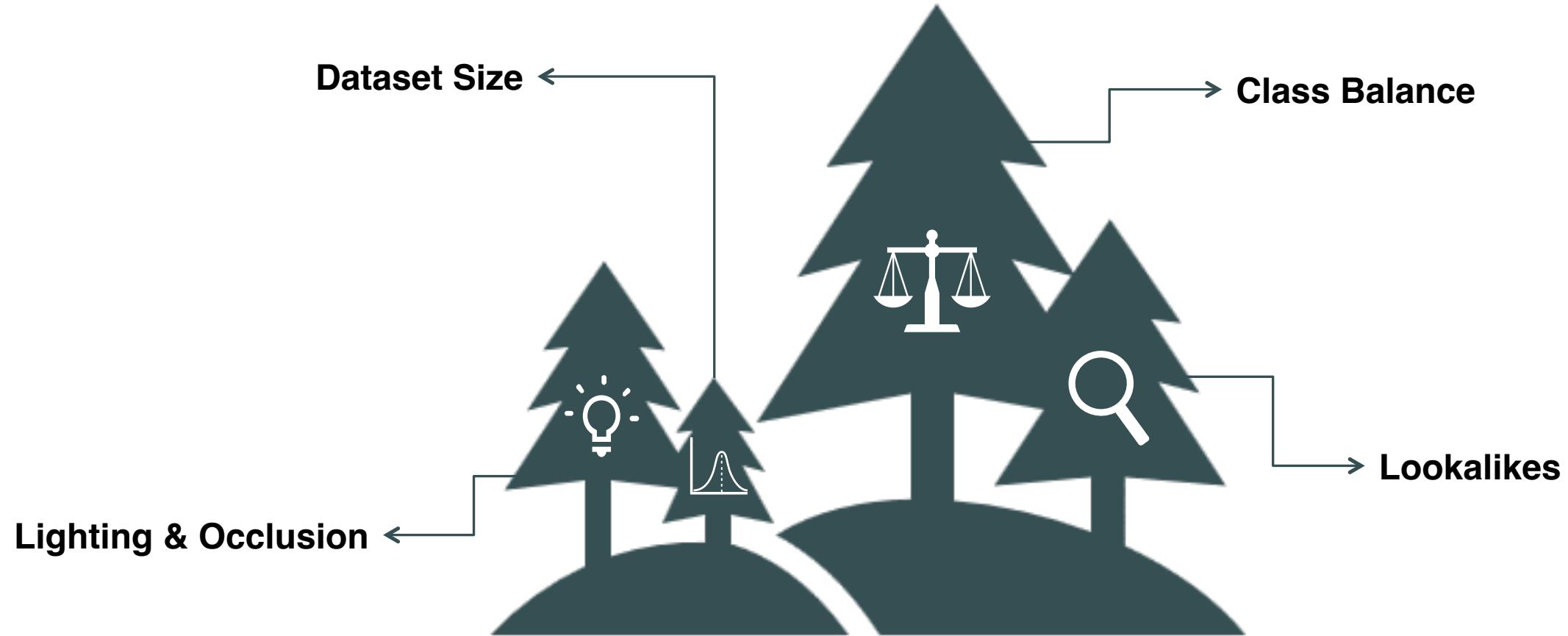
12 34 TODAY'S VISITS  
0

Accepted Visits

Pine Grosbeak (Adult Male)  
Confidence: 0.7199  
2025-05-16 19:05:21

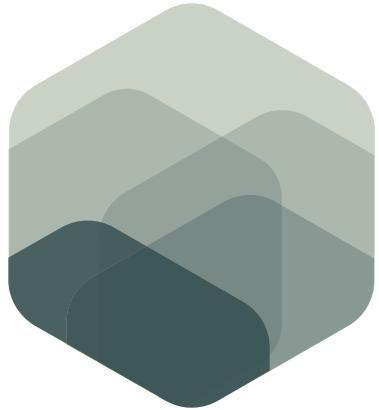


# Improving Robustness & Generalization





BirdAI



# Thank You



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