BIRDS

Deep Learning
Image Classification

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Do you like birds?

- You aren't alone in your love of birds
- Many people appreciate birds, but have trouble recognizing them
- We want to give those people hope...

What did we do?

- Used 2 datasets:
  - Caltech Birds 2011 - containing 11,788 total images of 200 bird categories
  - Birds 400 (on Kaggle) - containing 62,388 total images of 400 bird categories
- This was too many birds
- We cut down the Birds 400 dataset:
  - 6,838 images of the top 34 bird categories

Our models

- Model 1: Handcrafted
  - Conv2d
  - Max Pooling 2D
  - Dense
- Model 2: Pretrained
  - Inception v3
  - Imagenet

The results

- Model 1 (handcrafted)
  - 34 birds: 67% accuracy
  - 200 birds: 0.8% accuracy
  - 5 birds: 50%
- Model 2 (pretrained)
  - 34 birds: 89% accuracy
  - 200 birds: 51% accuracy

Conclusions

- Pretrained model achieved higher accuracy than handcrafted
- Fewer categories = better
  - More accurate predictions
- There is hope!