Poultry

Transfer learning based classification poultry diseases for enhanced health management

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Activity:

Theread_datafunction reads a subset of images from a specified folder, taking 500 images per label category. It iterates through each label, loads the images using OpenCV, and collects the image data, labels, and file paths into separate lists. This function is designed to manage large datasets by processing a smaller, manageable subset of images for training, validation, or testing.

We have taking 500 images from all 4 categories for training, testing and val because in each dataset from training , testing and validation there 4 lakhs , 70k and 40k. Those are very huge data to train we dont have that much ram in so collect 500 from each of the folder.

This short Python code snippet builds an image classifier with Keras. It cleverly reuses a pre-trained VGG16 model for its powerful image recognition abilities. Here's the key idea:

The code loads the VGG16 model, but skips its final classification layers (keeping its feature extraction power).

It then freezes the pre-trained part to focus training on new custom layers added on top.

These custom layers likely handle the specific classification task you have in mind.

Finally, it compiles the whole model for training, setting up how to improve and assess its performance.

The text shows epochs, which are iterations over the training data. It also shows loss, which is how well the model is performing on the training data, and accuracy, which is how often the model makes correct predictions.

In the output you provided, it appears the model is improving over time as the loss is decreasing and the accuracy is increasing

The first lines import libraries including TensorFlow and Keras.

It appears to be defining a model with layers including Flatten and Dense which are commonly used in CNN architectures.

The code then defines a process to compile the model, specifying an optimizer, loss function and metrics.

Overall, the code snippet seems to be training a CNN model on some data. However, without more context its difficult to say exactly what the model is being trained for.

```
<!DOCTYPE html>
<html lang="en">
<head>
  <meta charset="UTF-8">
  <title>Poultry Disease Detection</title>
  <style>
    body {
      font-family: Arial, sans-serif;
      background-color: #f4faff;
      text-align: center;
      margin: 0;
      padding: 0;
    }
```

```
header {
    background-color: #0077b6;
    color: white;
    padding: 20px 0;
  }
  .upload-box {
    margin-top: 30px;
    padding: 25px;
    border: 2px dashed #0077b6;
    background-color: #e1f3ff;
    width: 300px;
    margin-left: auto;
    margin-right: auto;
    border-radius: 10px;
  }
```

```
.preview-section {
    display: flex;
    flex-wrap: wrap;
    justify-content: center;
    margin-top: 40px;
  }
  .category {
    margin: 20px;
  }
```

```
.category img {
    width: 150px;
    height: 150px;
    object-fit: cover;
    border-radius: 10px;
    border: 2px solid #0077b6;
}
button {
    margin-top: 10px;
    padding: 10px 20px;
    background-color: #0077b6;
    color: white;
    border: none;
    border-radius: 6px;
    cursor: pointer;
}
```

```
button:hover {
      background-color: #005f87;
    }
  </style>
</head>
<body>
```

Testing Model &Data Prediction

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1. Types of Poultry

Type	Purpose	Examples
Chicken	Eggs & Meat	Broilers, Layers
Duck	Eggs & Meat	Pekin, Khaki Campbell
Turkey	Meat	Broad Breasted White
Goose	Meat & Feathers	Embden, Toulouse
Quail	Eggs & Meat	Coturnix, Bobwhite
Guinea Fowl	Meat	Helmeted Guinea Fowl

2. Common Chicken Breeds

Breed	Category	Characteristics
White Leghorn	Layer	High egg production
Rhode Island Red	Dual	Good for meat and eggs
Cornish Cross	Broiler	Fast-growing meat bird
Australorp	Layer	Hardy, good egg producer
Brahma	Meat	Large, docile, heavy bird

3. Common Poultry Diseases

Disease	Type	Symptoms
Newcastle Disease	Viral	Coughing, sneezing, drop in eggs
Marek's Disease	Viral	Paralysis, tumors
Avian Influenza	Viral	Sudden death, nasal discharge
Coccidiosis	Parasitic	Diarrhea, weakness
Fowl Pox	Viral	Lesions on skin and mouth

4. Poultry Feed Types

Feed Type	Stage	Description
Starter Feed	0-6 weeks	High protein (18–24%) for chicks
Grower Feed	6-14 weeks	Moderate protein (~16–18%)
Layer Feed	14+ weeks	Balanced with calcium for eggs
Finisher Feed	Broilers	Energy-rich for fast growth
Scratch Grains	Adult birds	Supplement, not complete feed