



-RISHIT

DESCRIPTION

An animal prediction website, powered by cutting-edge technology and deep learning! This website allows you to upload an image of an animal, and its model will accurately predict the species it belongs to.

TECHNOLOGIES USED

- Frontend: React and Vite for a fast, responsive user interface.
- Backend: Powered by Flask to handle image uploads and predictions.
- Deep Learning: The backbone of the prediction system is a Convolutional Neural Network (CNN) trained on a large set of animal images.

HOW IT WORKS?

- Upload Image: Simply select or drag and drop an image of an animal from your device.
- Prediction: Once uploaded, our model will analyze the image and predict the species.
- Result Displayed: In just a few seconds, the predicted animal species will be shown on your screen.

BEHIND THE SCENES



Image uploaded
on the frontend
is sent to the
backend

Backend API
processes the
image and feeds
it to the CNN
model



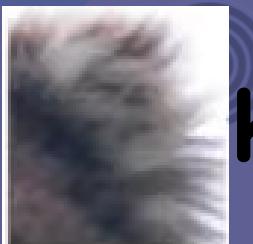
Model predicts
the animal and
the result is
displayed



WHAT IS A CNN??

A CNN (Convolutional Neural Network) is a type of deep learning model specifically designed for analyzing visual data, like images. It identifies patterns and features in an image to make predictions.

HOW DO WE RECOGNIZE IMAGES



Koala Ears : YES



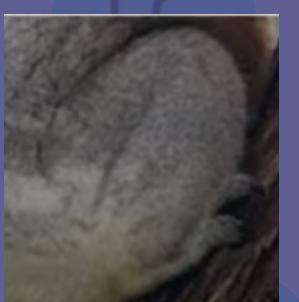
Koala Eyes : YES



Koala Nose : YES



Koala Hand : YES



Koala Leg : YES



Koala : YES

SIMILARLY A CNN MODEL CLASSIFIES AN IMAGE BY

- 1. Breaking the Image into Smaller Pieces**
- 2. Recognizing Patterns and learning the Features at Multiple Layers**
- 3. Pooling (Downsampling)**
- 4. Prediction**

TRY IT OUT!!

<https://wildlens-tc06.onrender.com/>



A screenshot of a web application interface. At the top, there is a logo consisting of three white paw prints and the text "WILD LENS" where the "I" is replaced by a magnifying glass icon. Below the logo, there is a dashed rectangular area containing a file input field with a camera icon and an upward arrow. To the right of the input field, the text "Drag & drop an image, or click to select one" is displayed. In the bottom right corner of the interface, there is a copyright notice: "© 2024 WildLens | All rights reserved." The background of the entire image features a dark blue and black pattern with various white line-art icons of animals like rabbits, cats, and dogs.

Website Sample

LIMITATIONS OF THE CURRENT VERSION

- Can only predict 12 animal types - Bull, Cat, Chicken, Dog, Elephant, Giraffe, Humans, Horse, Kangaroo, Lion, Panda, Penguin, Sheep, Squirrel, Tiger
- Wrong predictions for certain patterns. For e.g. a black and white pattern will result in a panda



Animal Predicted as : Panda

FUTURE UPDATES

- Increasing the number of Animal Classes.
- Improving on existing model for higher accuracy and predictions
- Adding object detection so that multiple animals in a single image can be detected.

Thank you

