
ANIMAL SPECIES DETECTION USING DEEP LEARNING

Improving Animal Species Detection Using Deep Learning

TEAM OPENCV

24th of August 2023

Introduction

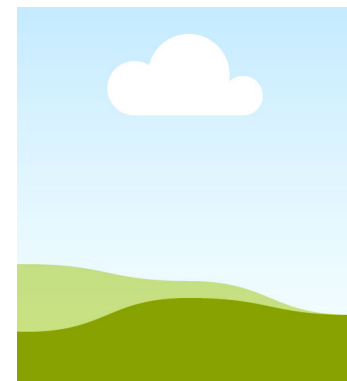
Project Lead

Olamide Oladipo

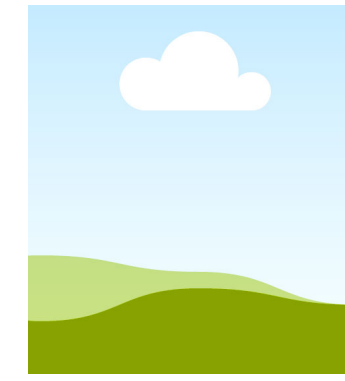
Assistant Project Lead

Emmanuel Omatozaye Aiyede
Sumor

Query Analyst



Presenter 1



Presenter 2

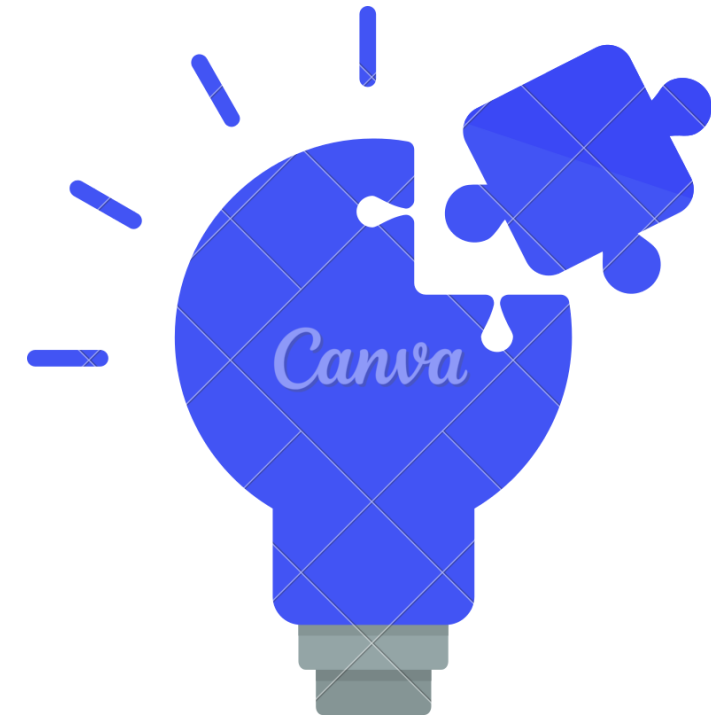
Problem Statement

ANIMAL SPECIES DETECTION USING DEEP LEARNING

The emergence of deep learning has enabled the tackling of diverse challenges in animal species detection.

Precise identification of animals from images holds vital roles in wildlife conservation, population studies, highway safety, and agriculture.

Despite advancements in deep learning, achieving accurate and reliable animal species detection still poses challenges that need to be addressed.

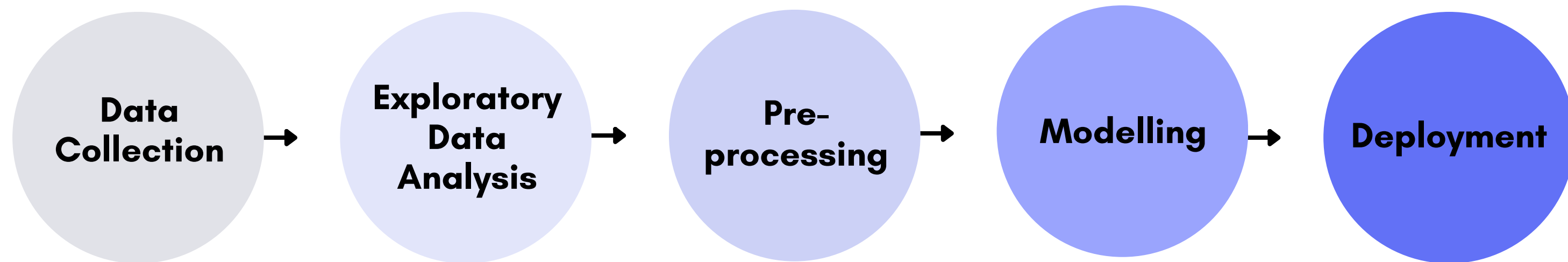


Solution

- Our solution aims to design an inclusive and flexible deep-learning approach for animal species detection that suits various contexts.
- This initiative intends to boost wildlife preservation, refine animal population research, enhance road safety by detecting animals early, and optimize agricultural methods.



Approach



Data Description

Previous dataset

- It contains **4** classes.
- All are annotated
- High image resolution.

Current dataset

- It contains **10** classes.
- None annotated
- Most images have low resolution.
- Annotated the high-resolution images using the **Make Sense** tool

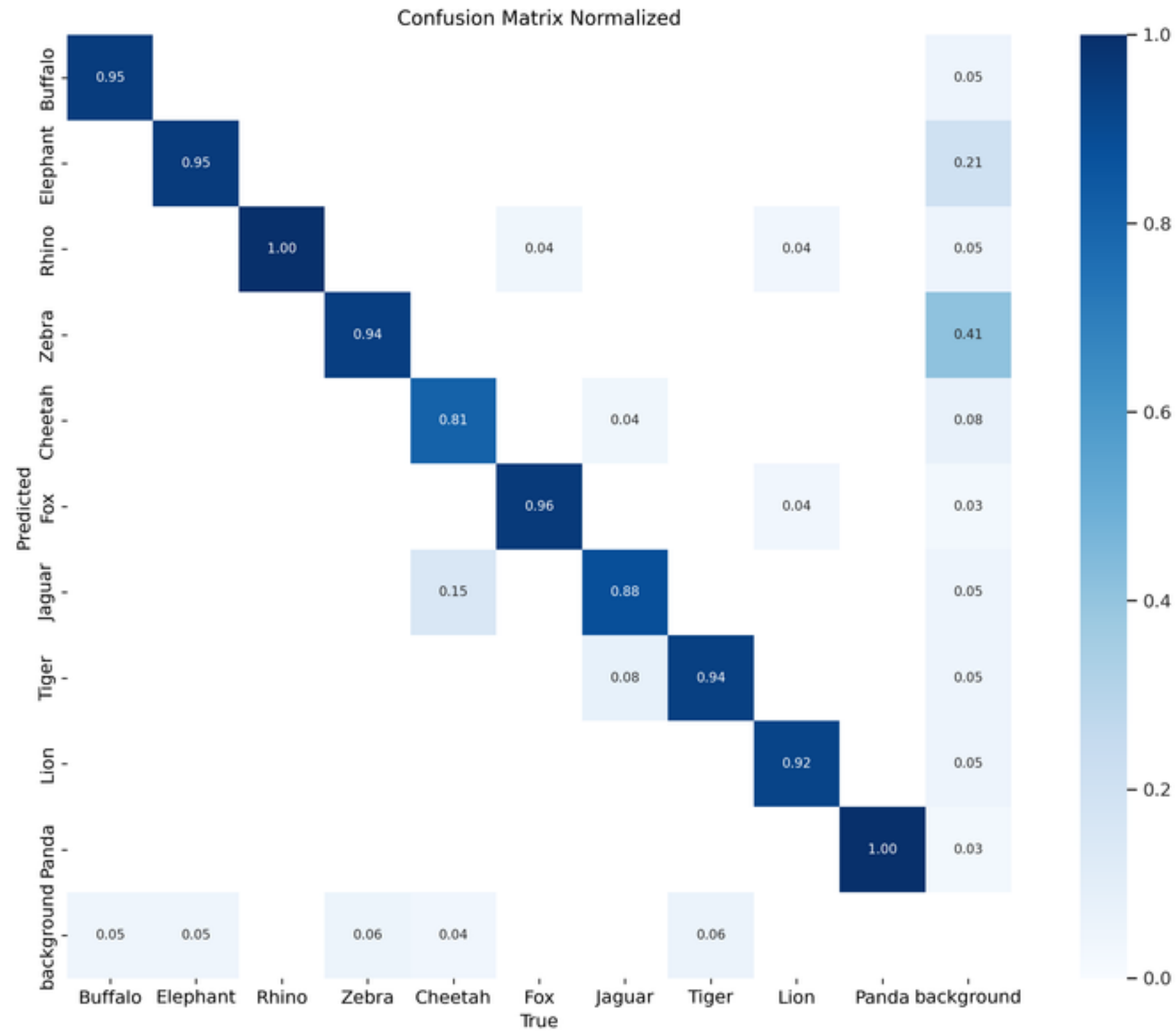
Additional dataset

- It contains **80** classes.
- All are annotated.
- High image resolution
- The selection was limited to the classes that exist in the current dataset..

Combined dataset

- It contains **10** classes, 4 from the previous and 6 from the current and additional datasets
- All are annotated
- High image resolution

Model

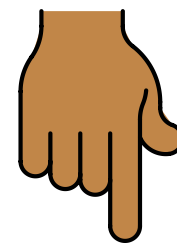


The diagonal elements (top left to bottom right) represent the correct predictions for each class, while the off-diagonal elements represent misclassifications.

Deployment

DEPLOYMENT OF A DEEP-LEARNING MODEL FOR ANIMAL SPECIES DETECTION USING STREAMLIT

Click to access and interact with the model



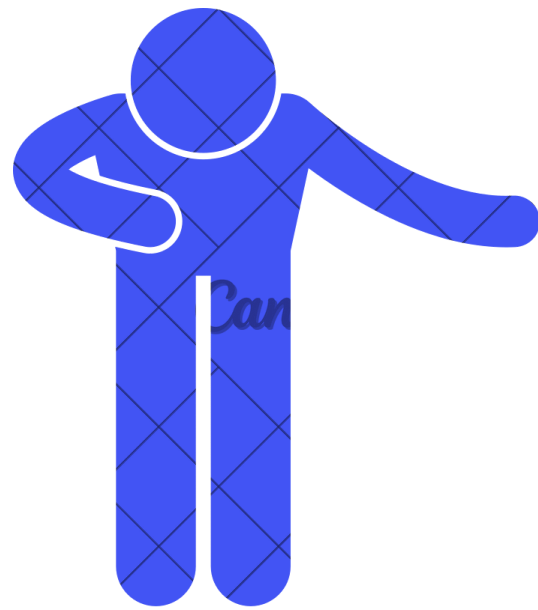
STREAMLIT

Recommendation

For future researchers and scientists venturing into the evolution of this model, an exciting pathway awaits.

- One of the primary areas of focus is extending the model's capabilities to adapt to new and previously unencountered animal species.
- This involves expanding the training dataset to encompass a broader range of species, thereby enhancing the model's ability to accurately detect and classify various animals.





Thank you