Croissant Vs Shar-Pei

Project 4 Group 5

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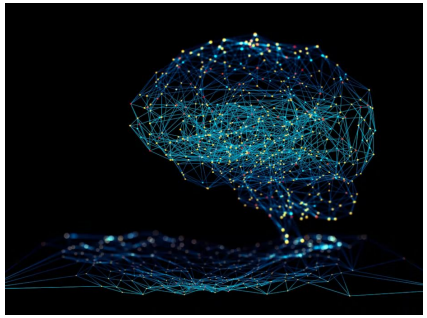
Overview

Proposal

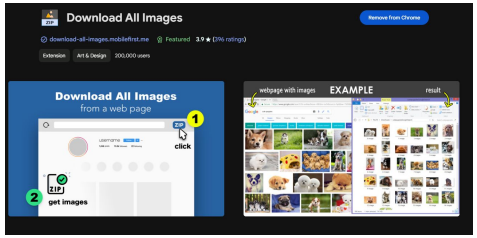


Everyday millions of people online struggle to tell the difference between images of croissants and shar-peis (amongst other animals). We aim to build a CNN that will solve this issue.

Data Cleanup & Analysis

- We would seek for the data set finding images of 500 croissants and shar peis
- Store images in BLOB files in SQL
- Standardise image sizing
- Split data into test and training
- Build CNN
- Then Test the CNN

Data Selection

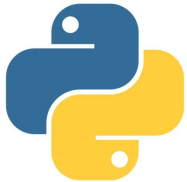


Data from Sources

- Kaggle
- Flickr
- Google
- Open Images

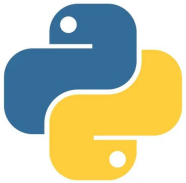
Objectives:

- Develop a learning model using Python and TensorFlow
- Preprocess image data
- Train model on labeled data set, optimising parameters
- Evaluate models performance
- Deploy the trained model



Python Code

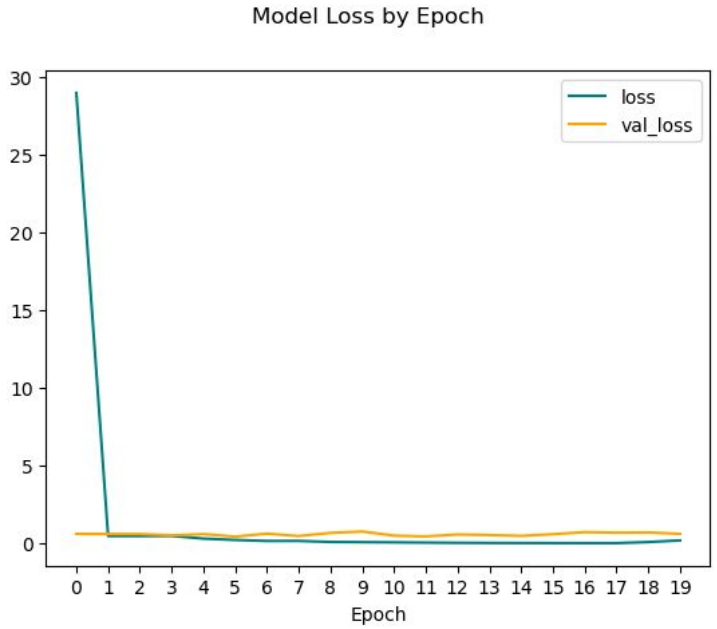
Isabella to Run through Code



Performance Graph

Model loss

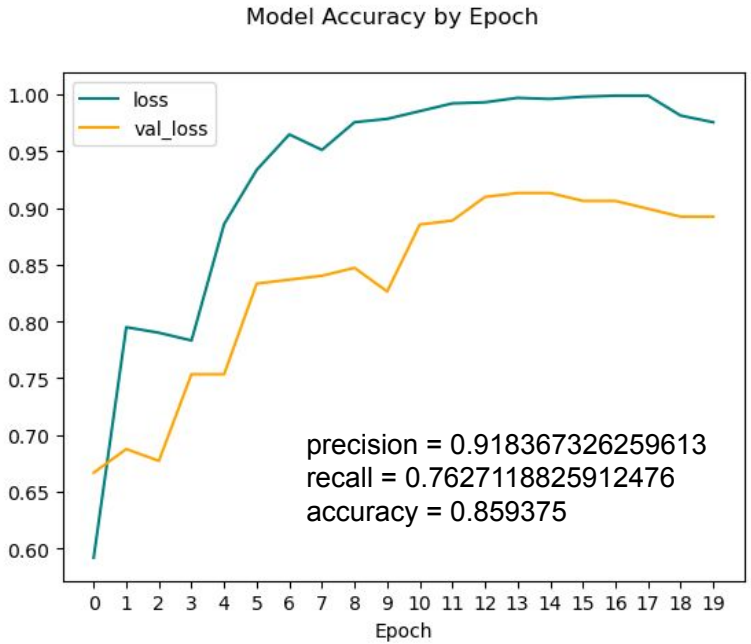
- X-axis represents the number of epochs which are complete passes through the entire training dataset
- The Y-axis represents the value of the loss function
- The blue line represents the training loss over each epoch
- The orange line represents the validation loss over each epoch



Performance Graph

Model Accuracy

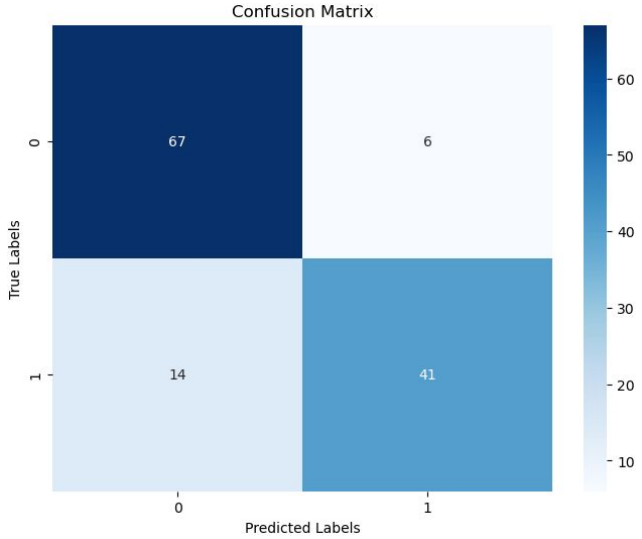
- X-axis represents the number of epochs.As training progresses, the model's parameters (weights and biases) are updated to minimise the loss functions
- Y-axis represents the values of accuracy. Measuring the proportion of correct predictions made by the model over all predictions
- Blue line represents training accuracy. Showing how the training accuracy changes over the course of training. Measuring the proportion of correct predictions made by the model.
- Orange line represents the validation accuracy. Showing the validation accuracy changes over the course of training.



Confusion Matrix

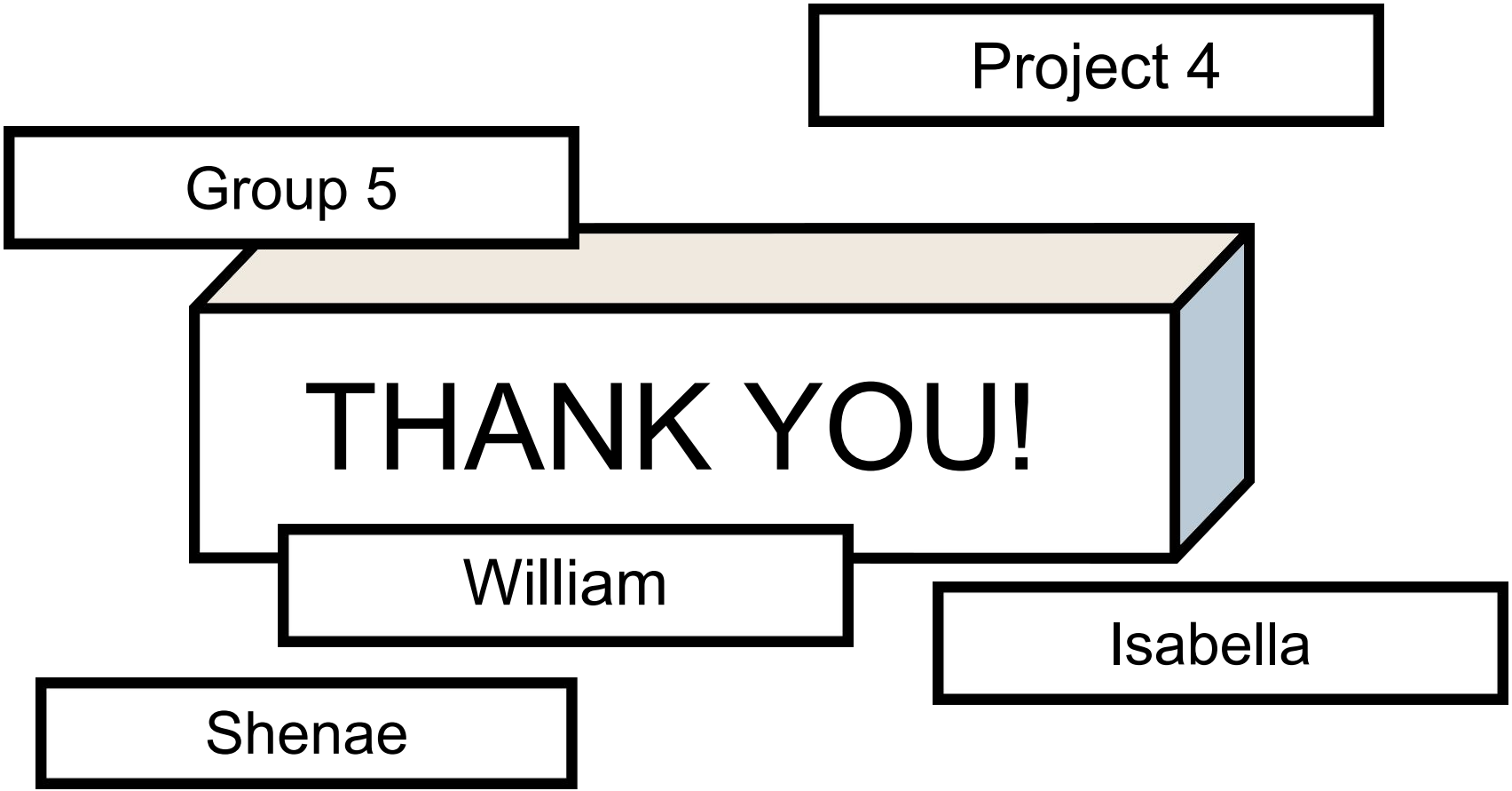
We used a confusion matrix for deeper understanding to help describe the performance. To show visualisation of the performance.

- Top left: true positive
- Top Right: false negative
- Bottom left: false positives
- Bottom right: True negatives



Summary

Final Thoughts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THANK YOU!
William
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Shenae