FINAL PROJECT FOR THE DEVTOWN BOOTCAMP

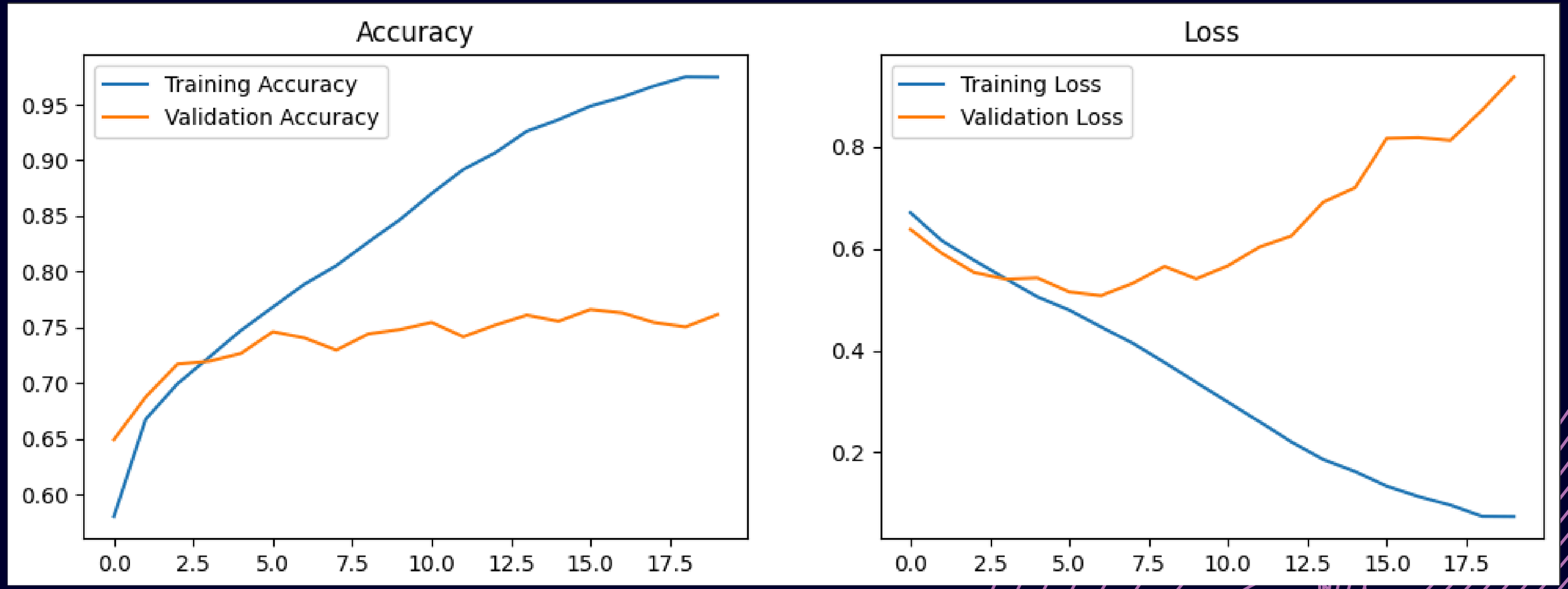
AI in Business Operations: Productivity Gains and Optimization

DATASET

CIFAR-10 (Filtered)

sPECS

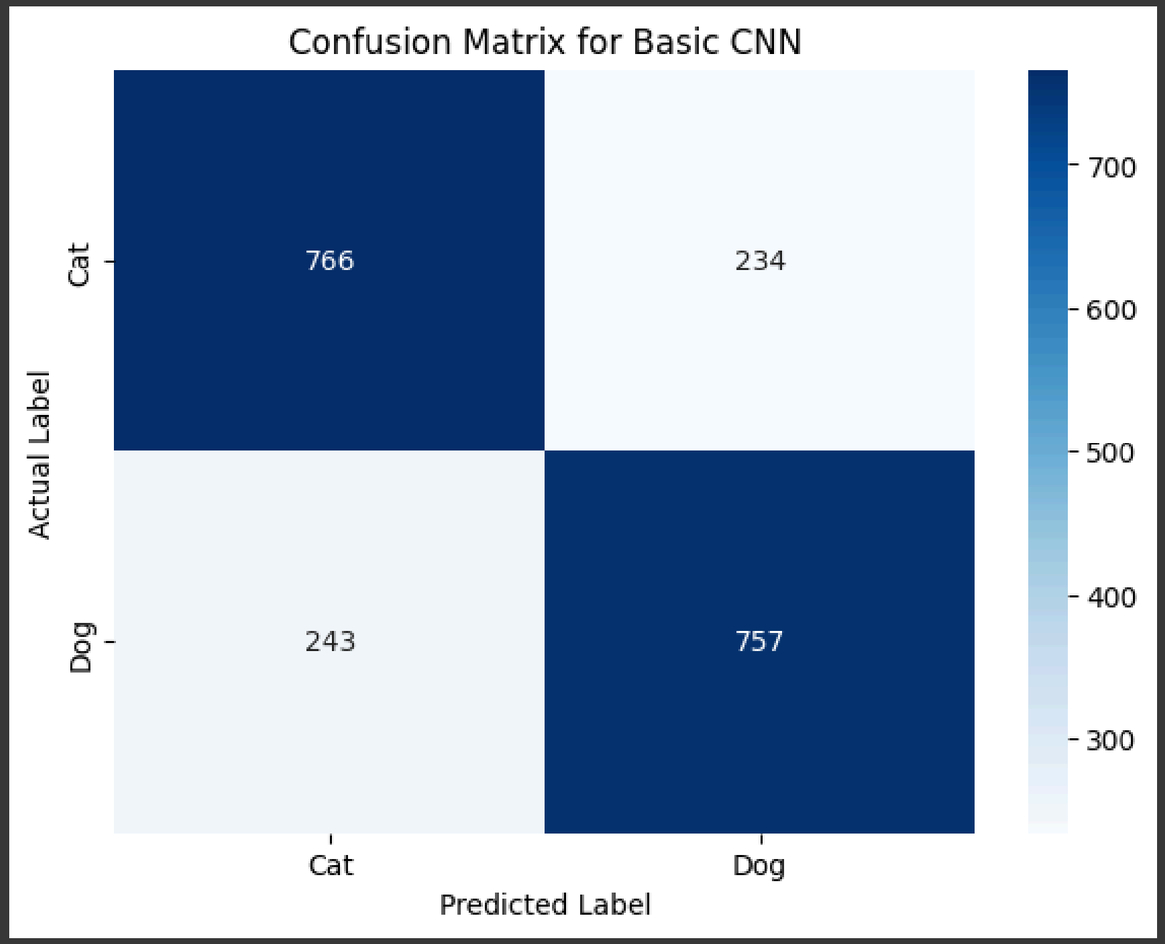
12,000 Images | 32x32 Pixels


Accuracy
Training Accuracy
Validation Accuracy
0.95
0.90
0.85
0.80
0.75
0.70
0.65
0.60
0.0
2.5
5.0
7.5
10.0
12.5
15.0
17.5
Loss
Training Loss
Validation Loss
0.8
0.6
0.4
0.2
0.0
2.5
5.0
7.5
10.0
12.5
15.0
17.5

```
63/63 ━━━━━━━━━━━━━━━━━━━━ 1s 12ms/step
Classification Report:
              precision    recall  f1-score   support

         Cat       0.76      0.77      0.76      1000
         Dog       0.76      0.76      0.76      1000

    accuracy                           0.76      2000
   macro avg       0.76      0.76      0.76      2000
weighted avg       0.76      0.76      0.76      2000
```



RESULT

Vision_AI_Project.ipynb

File Edit View Insert Runtime Tools Help

Share Gemini

Commands + Code + Text Run all

RAM Disk

Files

..
drive
sample_data
kaggle.json
my_cat_photo.png

Disk 73.81 GB available

```
img_array = img_array / 255.0
image_batch = np.expand_dims(img_array, axis=0)

prediction = my_best_model.predict(image_batch)

print("\nPrediction Result:")
if prediction[0][0] > 0.5:
    print(f"✅ Prediction: DOG (Confidence: {prediction[0][0]*100:.2f}%)")
else:
    print(f"✅ Prediction: CAT (Confidence: {(1-prediction[0][0])*100:.2f}%)")
```

```
WARNING:absl:Compiled the loaded model, but the compiled metrics have yet to be built. `model.compile_metrics` will be empty until you train or evaluate the model.
This is the image we are testing:
```

```
1/1 ━━━━━━━━━━━━━━━━━━━━ 4s 4s/step

Prediction Result:
✅ Prediction: CAT (Confidence: 99.85%)
```

Variables Terminal

10:16 PM T4 (Python 3)

CONCLUSION

Transfer Learning is significantly more accurate and efficient for this problem.