

Vision AI: Cats vs Dogs

Problem & Dataset

Binary classification (Cat vs Dog)

Dataset: TFDS cats_vs_dogs

Approach

- Baseline CNN from scratch
- Transfer Learning: MobileNetV2
- GPU-accelerated training in Colab

Preprocessing & Modeling

- Resize, normalize, augment
- Loss: Binary cross-entropy, Adam
- Fine-tune last ~30 layers

Results

- Accuracy/Loss curves
- Confusion Matrix
- ROC-AUC
- TL > Baseline performance

Conclusion & Next Steps

- Production-ready pipeline
- Add Gradio/Streamlit demo
- Try EfficientNet + tuning