

MODELS IMPLEMENTED

1. **Model:** Transfer learning-based (InceptionV3) with last layer unfreeze and retrained.

Performed by: Nistha Sharma

Dataset: Ct Scans axial view

Code:

https://colab.research.google.com/drive/1WKNs-zUbVzUVtLp7zMd_jPCEOpBP1S9h?usp=sharing

Confusion matrix:

```
true negative 35
false positive 49
false negative 29
true positive 55
```

2. **Model:** Transfer learning-based (VGG16) with last layer unfreeze and retrained.

Performed by: Nistha Sharma

Dataset: Ct Scans axial view

Code:

<https://colab.research.google.com/drive/1F-FBtCg3D3BxZaEO2lqGU-aOaoRlobz8?usp=sharing>

Confusion matrix:

```
true negative 32
false positive 52
false negative 34
true positive 50
```

3. **Model:** Convolutional Neural Networks (CNN) with two hidden layers.

Performed by: Priscila Lucas

Dataset: Ct Scans with two classes? Diseased and not_diseaded

Code: [cnn_lung_disease - Jupyter Notebook](#)

Confusion matrix:

```
true negative 76
false positive 0
false negative 77
true positive 0
```

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4. **Model:** Convolutional Neural Networks (CNN) with eight hidden layers.

Performed by: Bayangmbe Mounmo

Dataset: CtScans: diseased & not_diseased

Code: <https://colab.research.google.com/drive/1g9LeOmjkSdA7ONtQ3stAwX6boaBZLCnG?usp=sharing>

Confusion matrix:

x	not_diseased	diseased
not_diseased	TP:80	FP:18
diseased	FN:4	TN:66

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5. **Model:** Transfer learning-based (Resnet50) with last layer unfreeze and retrained.

Performed by: Anusha Thatikonda

Dataset: Ct Scans axial view

Code:

Confusion matrix:

true negative 18

false positive 66

false negative 16

true positive 68

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6. **Model:** CNN with 3 hidden layer

Performed by: Lilian Ugwu

Dataset: Ct Scans with two classes? Diseased and not_diseased

Code:

https://colab.research.google.com/drive/1X5vMexq5YtsTshw95sbwG-ofz_aEFW8#scrollTo=pMyVx5F7Vj1Q

Confusion matrix: TN 131, FN 3, FP 0, FN 0

7. Combined Model:

Performed by: Nistha Sharma

Dataset: Combined dataset of xrays and ctscans

Code: <https://colab.research.google.com/drive/1wdVaXWxoKhW48JYTRqP3KNdsU8LYbZcN?usp=sharing>

Confusion matrix:

x	not_diseased_xray_pred	diseased_xray_pred	not_diseased_ctscan_pred	diseased_ctscan_pred
not_diseased_xray_actual	82	125	1	26
diseased_xray_actual	4	384	0	2
not_diseased_ctscan_actual	0	0	84	0
diseased_ctscan_actual	0	0	24	60

8. Model : xse_resnet18 with transfer learning (trained on 30% of dataset)

Performed by : Elena Andreini

DataSet : xrays

Code: https://colab.research.google.com/drive/1ry_3vkk0S2WmNAFr85zXNn_vMVbIGX8s?usp=sharing

Confusion matrix : 4 FN, 124 FP

9. Model : resnet34 with transfer learning

Performed by: Elena Andreini

DataSet : ctscans

Code:

https://colab.research.google.com/drive/1Pr7xZ4_U8Mhs60JPWSvAVDn6NkyrPp3g?usp=sharing

Confusion matrix : 7 FN, 0 FP

10. Model : MobileNetv2 with Transfer Learning

Performed by: Prince Chandra

Dataset : CTScans

Code <https://colab.research.google.com/drive/1BOLfnIIQICZ1N5P6xUqIqQInH-mEKIGK?usp=sharing>

Result : accuracy: 0.8988 - precision: 0.8454 - recall: 0.9762