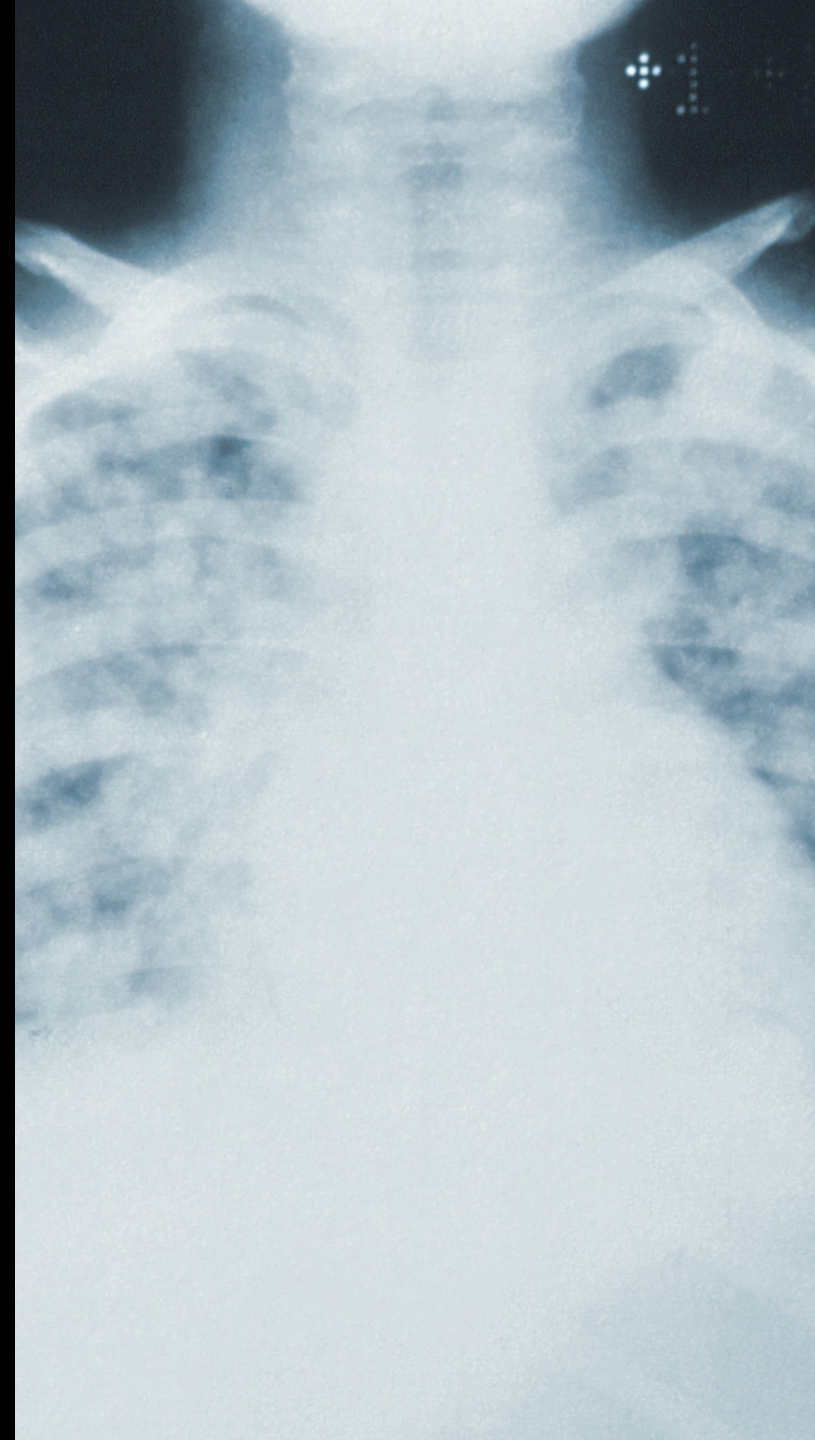
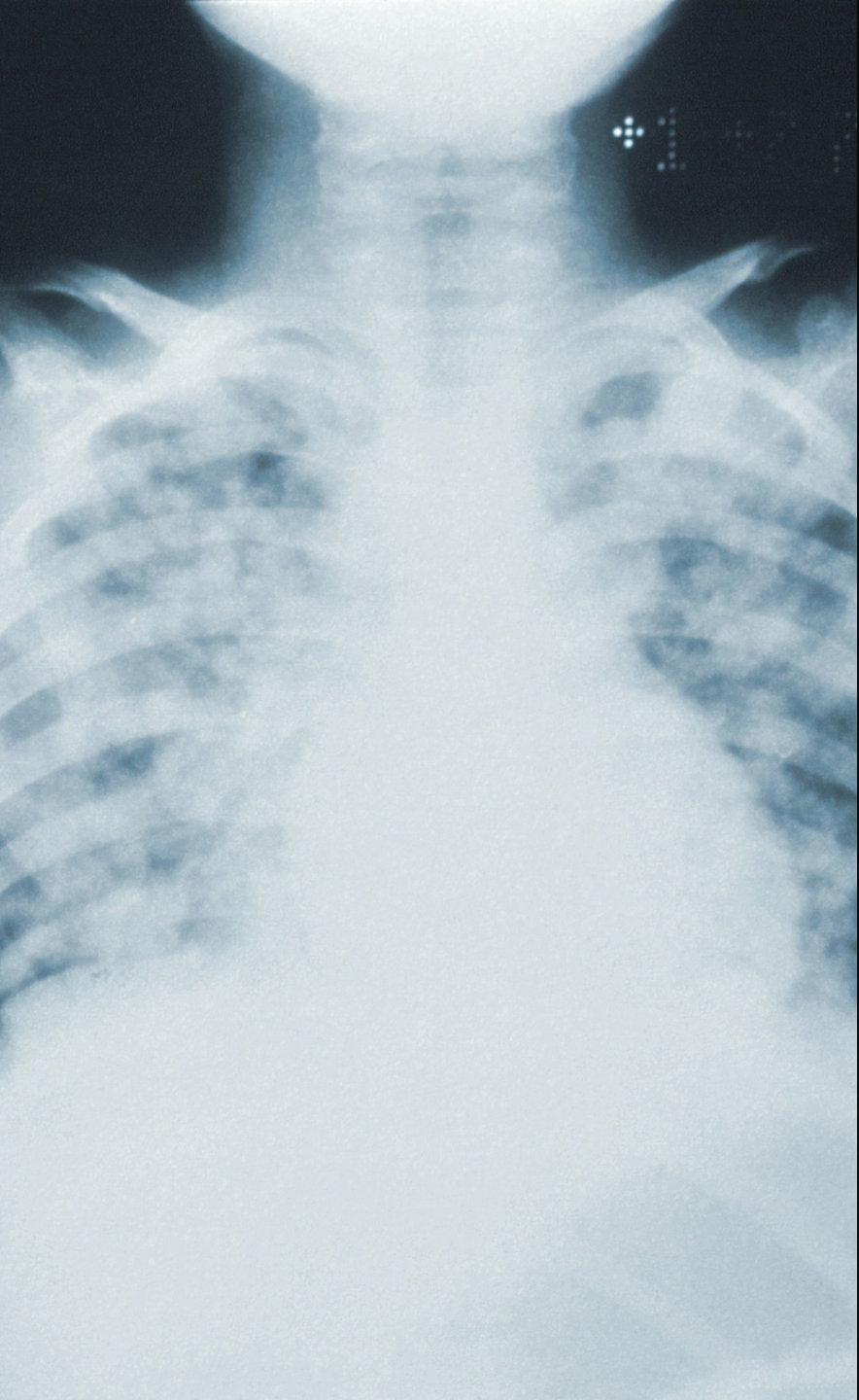


Pneumonia Image Classification

BY: VIKTORIA SZONTAGH





Agenda

1 | **BUSINESS PROBLEM**

2 | **DATA**

3 | **MODEL**

4 | **RECOMMENDATION**

700
Thousand

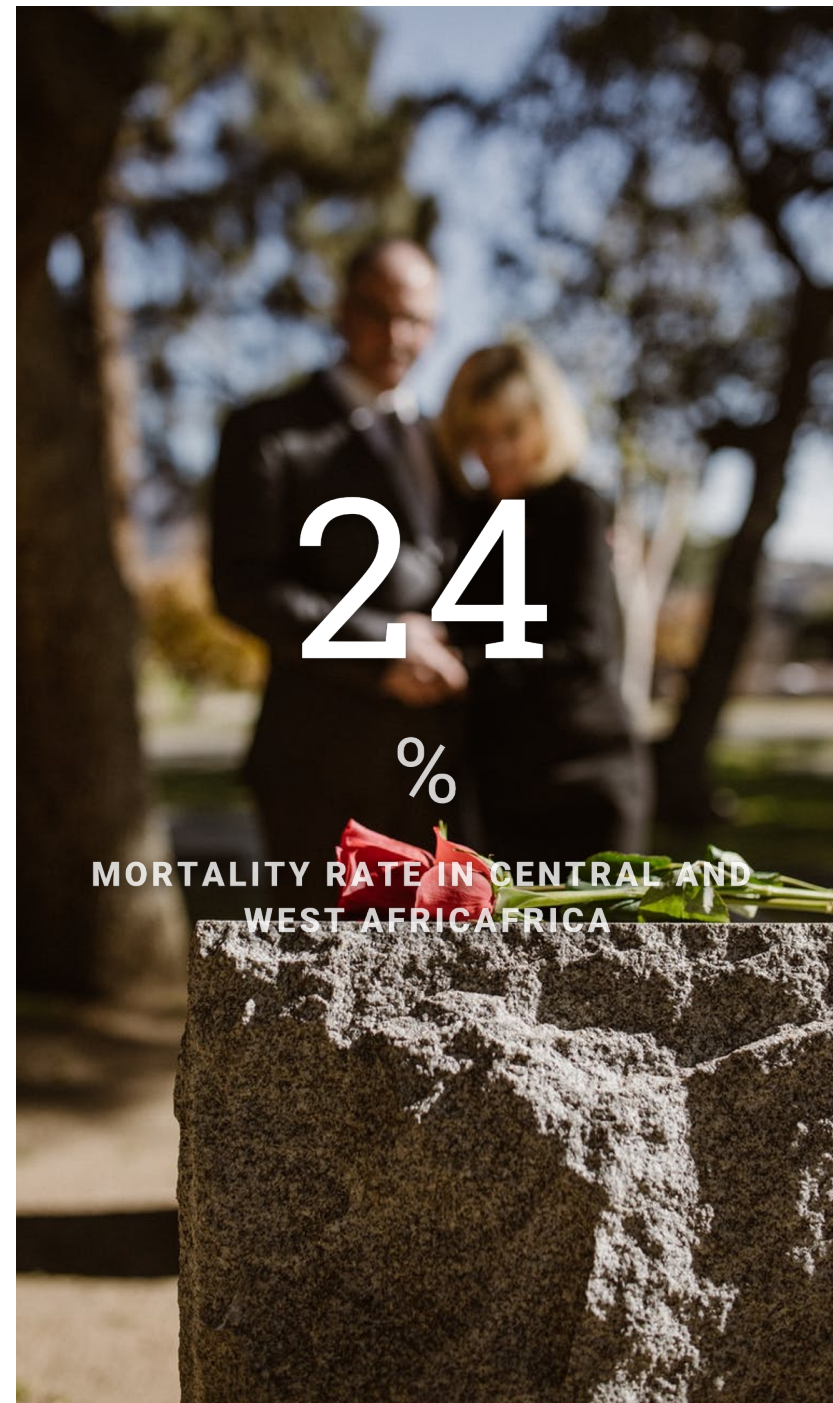
EVERY YEAR 700000 CHILDREN DIES
UNDER THE AGE OF 5.

45
Seconds

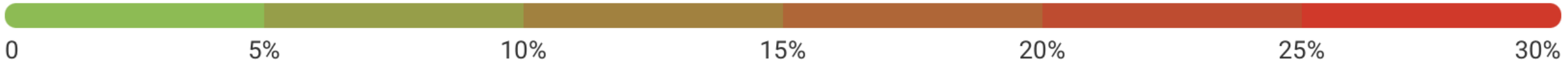
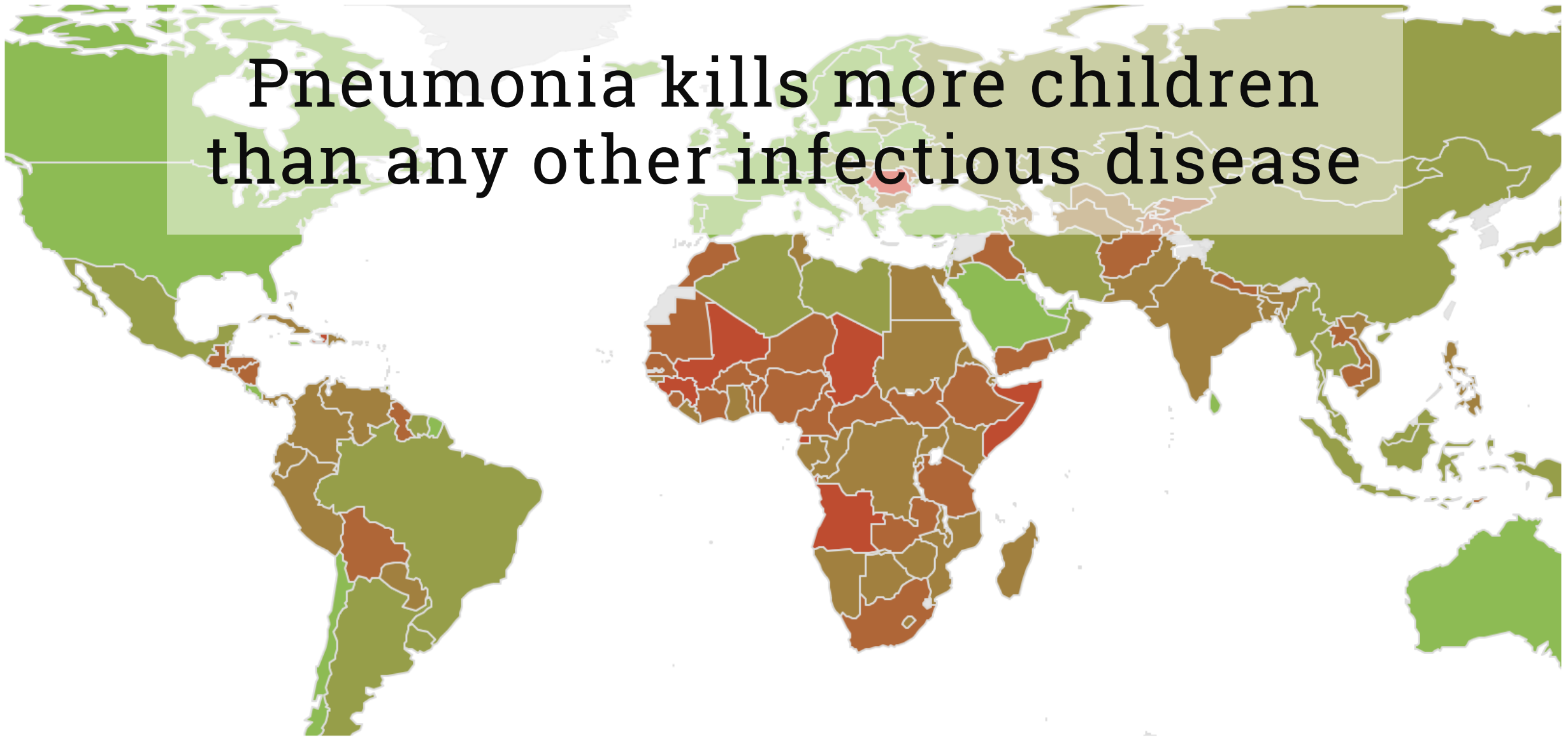
EVERY DAY, AT LEAST 1 CHILD DIES
EVERY 45 SEC

24
%

MORTALITY RATE IN CENTRAL AND
WEST AFRICA

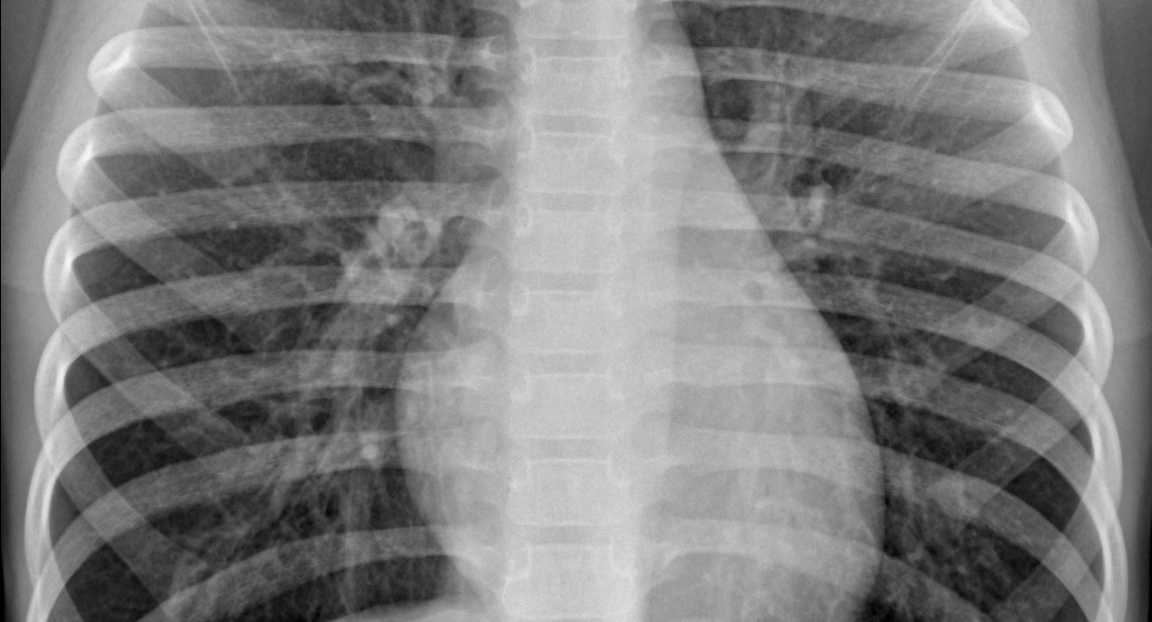


Pneumonia kills more children
than any other infectious disease



Data

NORMAL



SOURCE

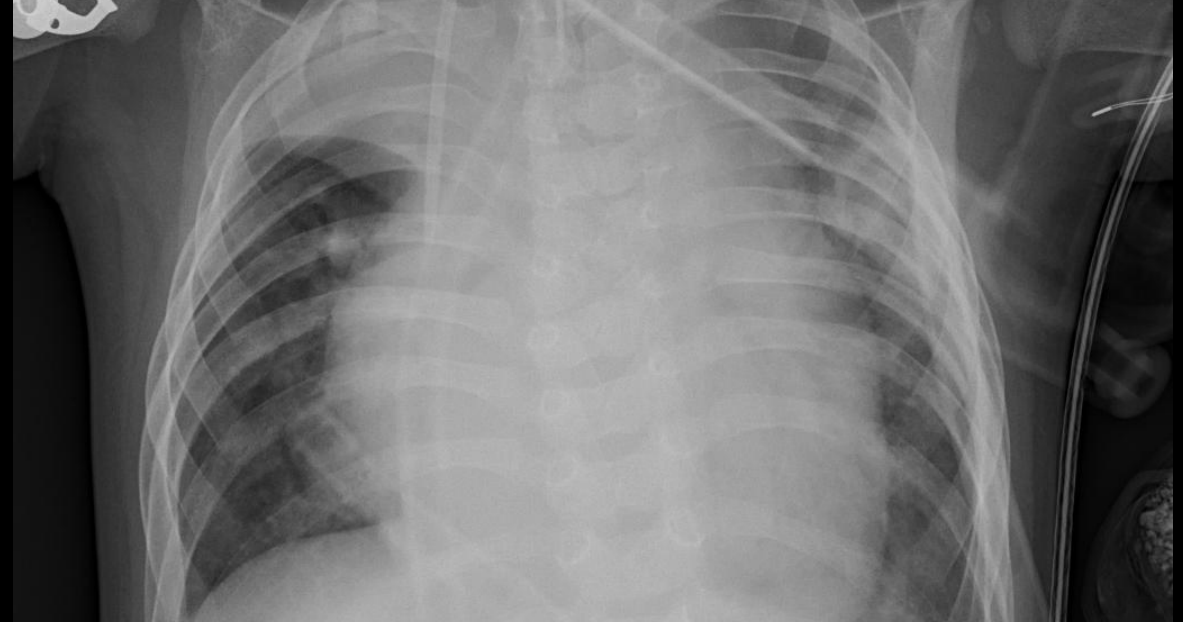
Kaggle Pediatric Pneumonia Dataset,

- 5866 images

After Augmentation

- 8546 images

PNEUMONIA



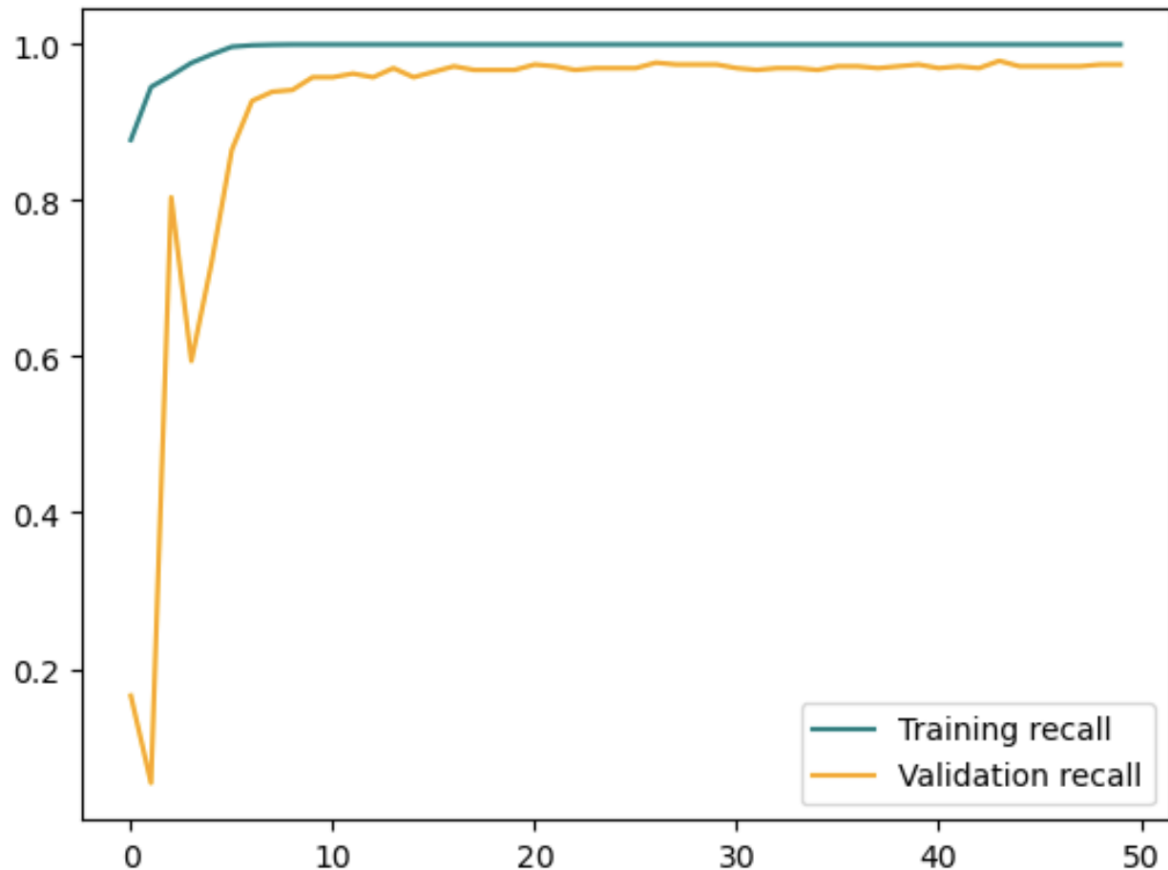
SPLIT

Train- 71.5% - 6100

Test- 18.5% - 1588

Validation - 10% - 858

Training and validation recall



Selected Model



MODEL1

1 Conv2D layer - 128

BatchNormalization

2 fully connected Dense layer



PARAMETERS

L2 regularization - 12(1e-6)

Batch Size - 64

Epochs - 50



SCORES

Train Recall: 1

Validation Recall: 97.44

Test Recall: 88



Recommendations



CUTTING DOWN ON EVALUATION TIME

By automating the Xray image processing, the doctors can spend less time on evaluation.



START EARLY TREATMENT

Pneumonia is curable, by identifying it early, can start early treatment



SAVE MORE LIVES

Early treatment decrease mortality.

A close-up photograph of a group of African children, mostly young girls, smiling and looking towards the camera. They are wearing colorful clothing, including a red patterned garment and a blue shirt. The text "Thank You" is overlaid in a large, white, serif font across the center of the image.

Thank You