

🔍 Collecting stats from Test sample...

Test sample: 100% | ██████████ | 1000/1000 [01:16<00:00, 13.14it/s]

🔍 Collecting stats from Train sample...

Train sample: 100% | ██████████ | 1000/1000 [01:07<00:00, 14.78it/s]

📊 - Dataset summary -

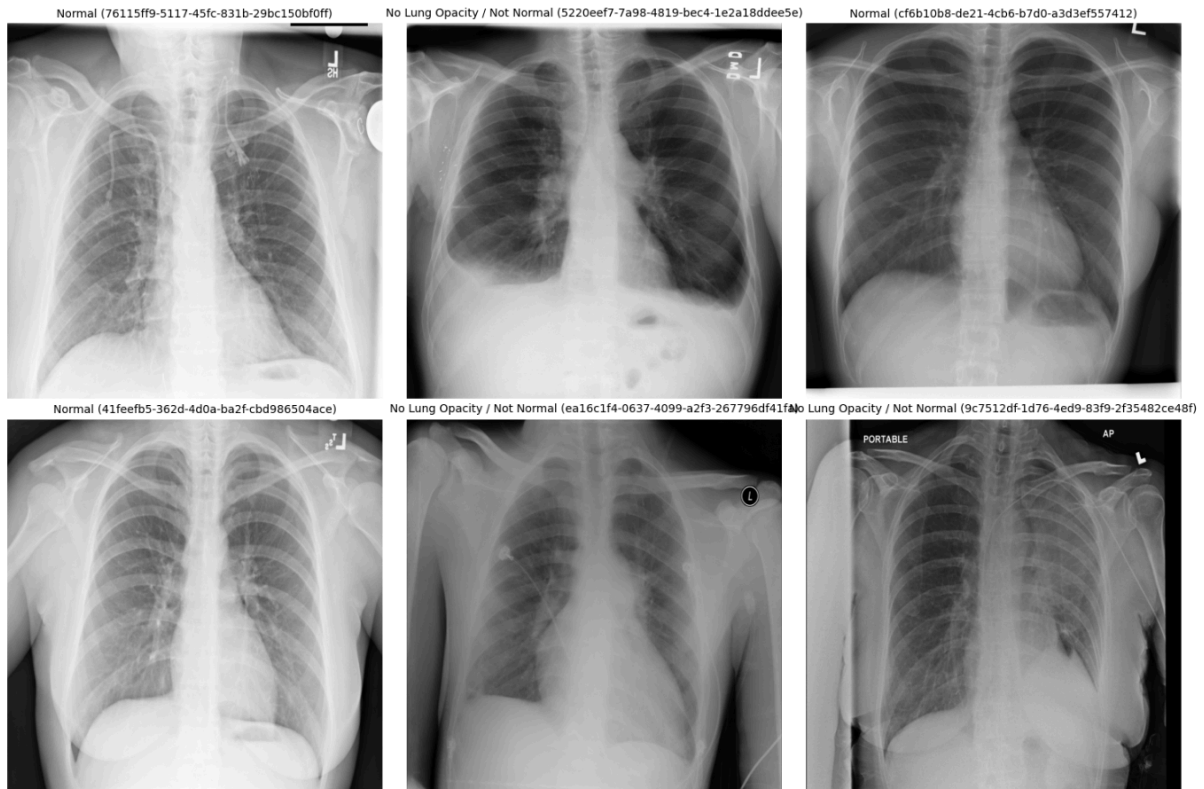
📁 Total DICOM files available : 29,684  
📦 Sample used for EDA : 1,000 test | 1,000 train  
📐 Unique image shapes found : {(1024, 1024)}  
🏷️ Unique modalities found : {'CR'}  
👤 Unique patients in sample : 2,000

📖 - Data dictionary -

- pixel\_array: 2-D NumPy array of raw pixel values
- Modality: Imaging modality (e.g., CT, MR, CR)
- PatientID: De-identified unique patient identifier
- pixel\_mean: Mean pixel intensity of the image
- pixel\_std: Standard deviation of pixel intensity

📊 RSNA Pneumonia Detailed Class Summary:

- Lung Opacity : 6,012
- No Lung Opacity / Not Normal : 11,821
- Normal : 8,851



```
super().__init__(activity_regularizer=activity_regularizer, **kwargs)  
Model: "sequential_1"
```

Layer (type)	Output Shape	Param #
conv2d (Conv2D)	(None, 222, 222, 32)	320
max_pooling2d (MaxPooling2D)	(None, 111, 111, 32)	0
conv2d_1 (Conv2D)	(None, 109, 109, 64)	18,496
max_pooling2d_1 (MaxPooling2D)	(None, 54, 54, 64)	0
flatten (Flatten)	(None, 186624)	0
dense_1 (Dense)	(None, 1)	186,625

**Total params:** 205,441 (802.50 KB)

**Trainable params:** 205,441 (802.50 KB)

**Non-trainable params:** 0 (0.00 B)

```
[57]: history = segmentation_model.fit(  
    train_generator,  
    epochs=10,  
    validation_data=test_generator)
```

```
Epoch 1/10  
833/833 ————— 629s 754ms/step - accuracy: 0.5200 - loss: 1.0326 - val_a  
ccuracy: 0.2587 - val_loss: 0.0000e+00  
Epoch 2/10  
833/833 ————— 632s 758ms/step - accuracy: 0.5956 - loss: 0.8470 - val_a  
ccuracy: 0.3044 - val_loss: 0.0000e+00  
Epoch 3/10  
833/833 ————— 650s 780ms/step - accuracy: 0.6268 - loss: 0.8088 - val_a  
ccuracy: 0.3911 - val_loss: 0.0000e+00  
Epoch 4/10  
833/833 ————— 591s 710ms/step - accuracy: 0.6620 - loss: 0.7435 - val_a  
ccuracy: 0.4772 - val_loss: 0.0000e+00  
Epoch 5/10  
833/833 ————— 551s 661ms/step - accuracy: 0.7025 - loss: 0.6654 - val_a  
ccuracy: 0.3290 - val_loss: 0.0000e+00  
Epoch 6/10  
51/833 ————— 8:48 676ms/step - accuracy: 0.7778 - loss: 0.5486
```