**Datos:**

Normal: 1341 samples

Pneumonia: 1345 samples

Covid-19: 219 samples

**random\_state = 42 🡪 15% test, 85% training (15% val – 70% training)**

**Primera prueba:**

model=Sequential()

model.add(Conv2D(32, 3, input\_shape=input\_shape, activation='relu', padding='same'))

model.add(MaxPooling2D(2))

model.add(Conv2D(64, 3, activation='relu', padding='same'))

model.add(MaxPooling2D(2))

model.add(Conv2D(128, 3, activation='relu', padding='same'))

model.add(MaxPooling2D(2))

model.add(Flatten())

model.add(Dense(64, activation='relu'))

model.add(Dropout(0.3))

model.add(Dense(3, activation='softmax'))

model.compile(optimizer='adam', loss='sparse\_categorical\_crossentropy', metrics=['acc'])

model.summary()

**n\_epochs = 3 and batch\_size=32**

The final train accuracy is 95.57213930348259 %

The final validation accuracy is 93.50348027842227 %

The final test accuracy is 92.02586206896551 %

The final test accuracy for COVID-19 is 83.60655737704919 %

The final test accuracy for NORMAL is 98.00995024875621 %

The final test accuracy for PNEUMONIA is 88.61386138613861 %

**Segunda prueba:**

Todo igual, pero añadiendo 747 imágenes aumentadas (rotación entre 15º, mirror flip y con 70% de posibilidades de que se rote una imagen) de COVID al set de training.

The final train accuracy is 97.35491512041058 %

The final validation accuracy is 96.13259668508287 %

The final test accuracy is 96.35416666666666 %

The final test accuracy for COVID-19 is 95.37572254335261 %

The final test accuracy for NORMAL is 99.00497512437812 %

The final test accuracy for PNEUMONIA is 94.55445544554455 %