**Datos:**

Normal: 1341 samples

Pneumonia: 1345 samples

Covid-19: 219 samples

**random\_state = 42 🡪 15% test, 80% 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**

The final train accuracy is 96.45843580914905 %

The final validation accuracy is 92.88990825688074 %

**The final test accuracy is 95.18348623853211 %**

**The final test accuracy for COVID-19 is 90.9090909090909 %**

**The final test accuracy for NORMAL is 94.02985074626866 %**

**The final test accuracy for PNEUMONIA is 97.02970297029702 %**

**Segunda prueba:**

Todo igual, pero añadiendo 657 imágenes aumentadas (rotación entre 15º y con 70% de posibilidades de que se rote una imagen) de COVID al set de training.

The final train accuracy is 98.02973977695167 %

The final validation accuracy is 94.4954128440367 %

The final test accuracy is 95.41284403669725 %

The final test accuracy for COVID-19 is 93.93939393939394 %

The final test accuracy for NORMAL is 95.52238805970148 %

The final test accuracy for PNEUMONIA is 95.54455445544554 %