



Smart Stylist

Silvia Cárdenas 2210102





Objetivo

**Clasificación de
tipo de rostro
en busca de
recomendar
peinados.**



Dataset

- ▼ □ FaceShape Dataset
 - ▼ □ testing_set
 - ▶ □ Heart
 - ▶ □ Oblong
 - ▶ □ Oval
 - ▶ □ Round
 - ▶ □ Square
 - ▼ □ training_set
 - ▶ □ Heart
 - ▶ □ Oblong
 - ▶ □ Oval
 - ▶ □ Round
 - ▶ □ Square





Dataset Recorte



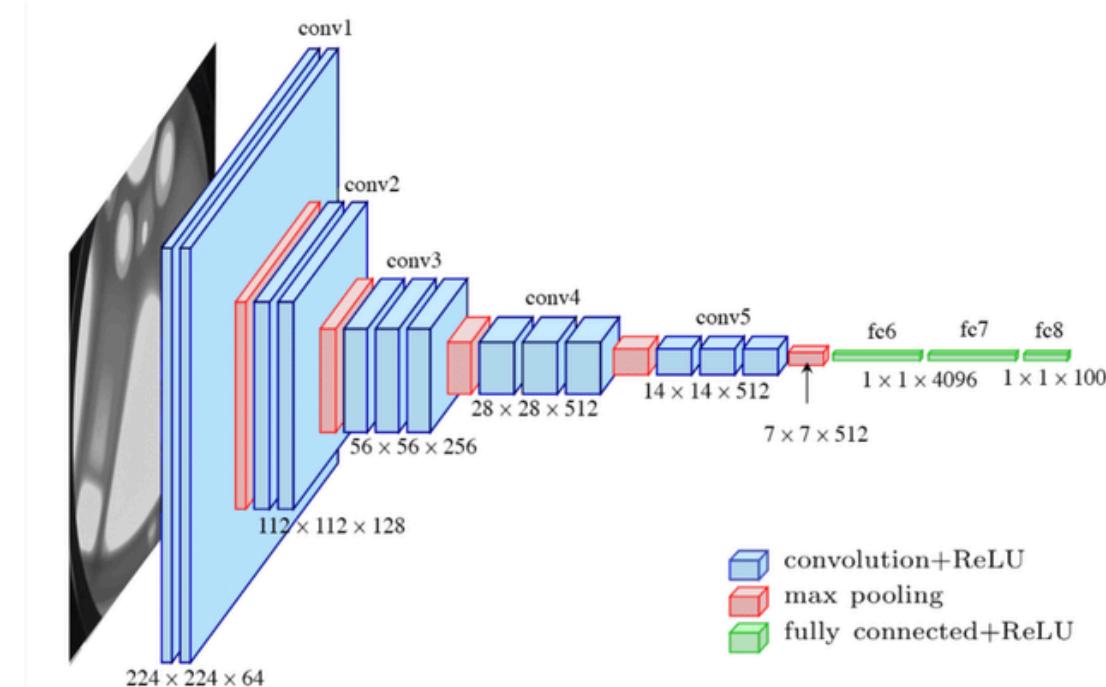
Dataset Puro

Según el estado del arte...

VGG16
ResNet50



- Son las más populares en la clasificación de rostros y otras tareas de visión por computadora debido a su efectividad demostrada, facilidad de implementación y adaptabilidad para transfer learning.





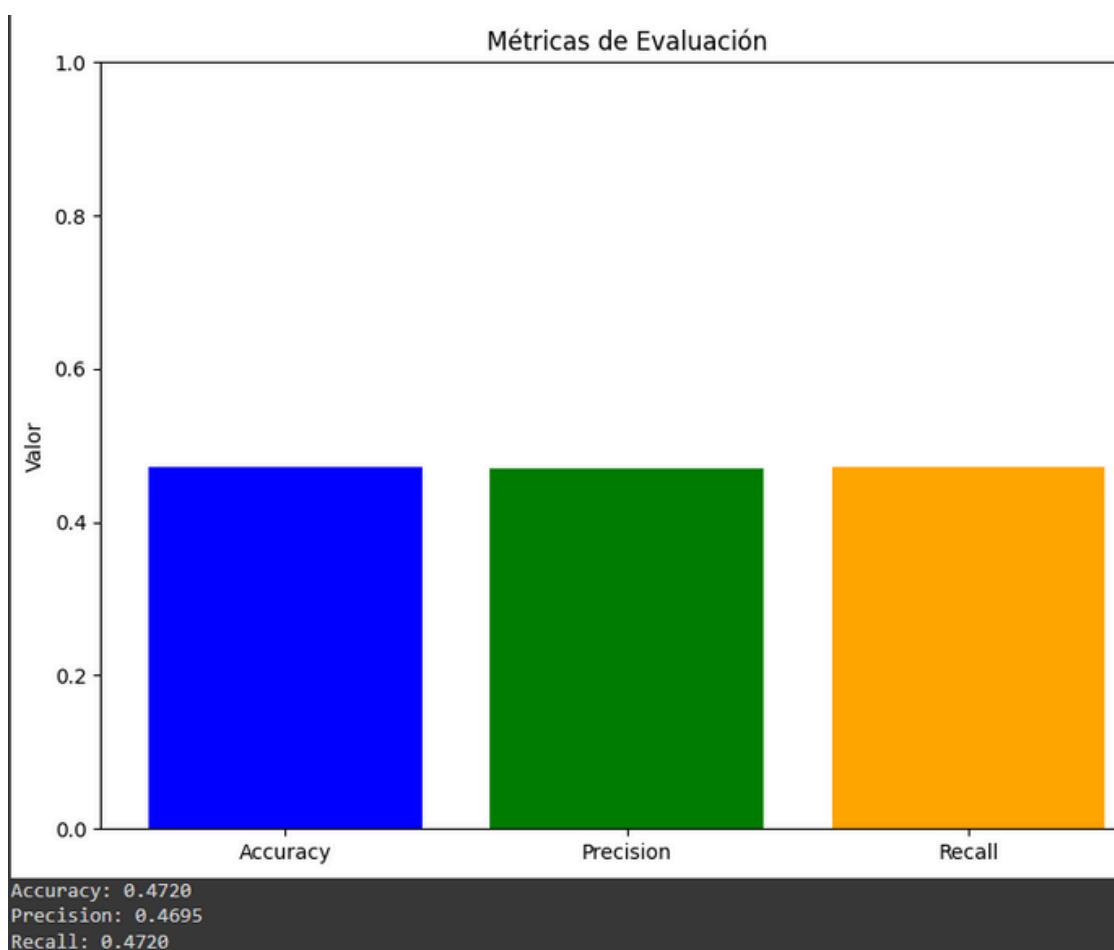
Dataset Puro

3998 imágenes para training

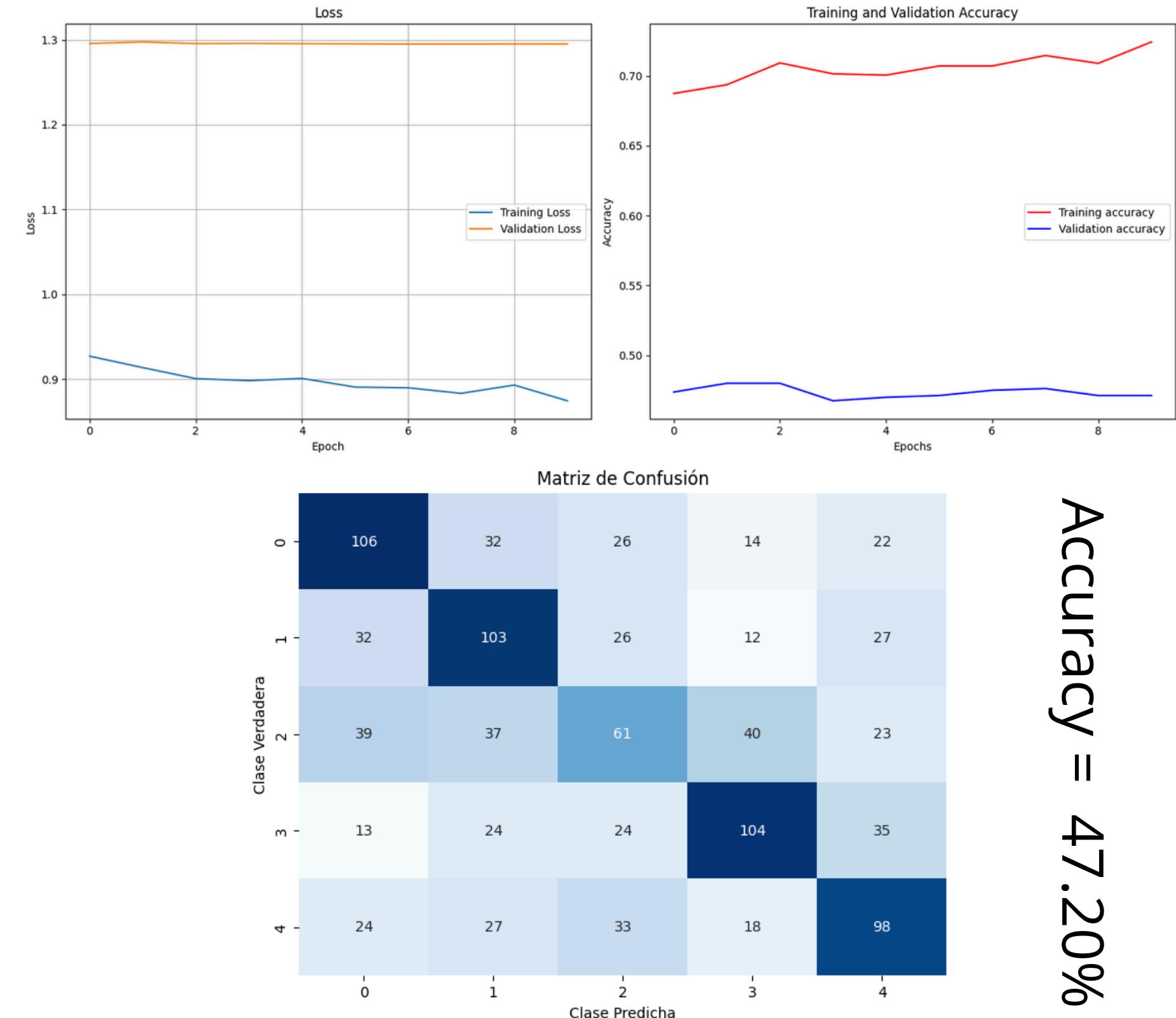
Found 3200 images belonging to 5 classes.
Found 798 images belonging to 5 classes.

1000 imágenes para testing

Found 1000 images belonging to 5 classes.



Tras 20 epochs...



Accuracy = 47.20%



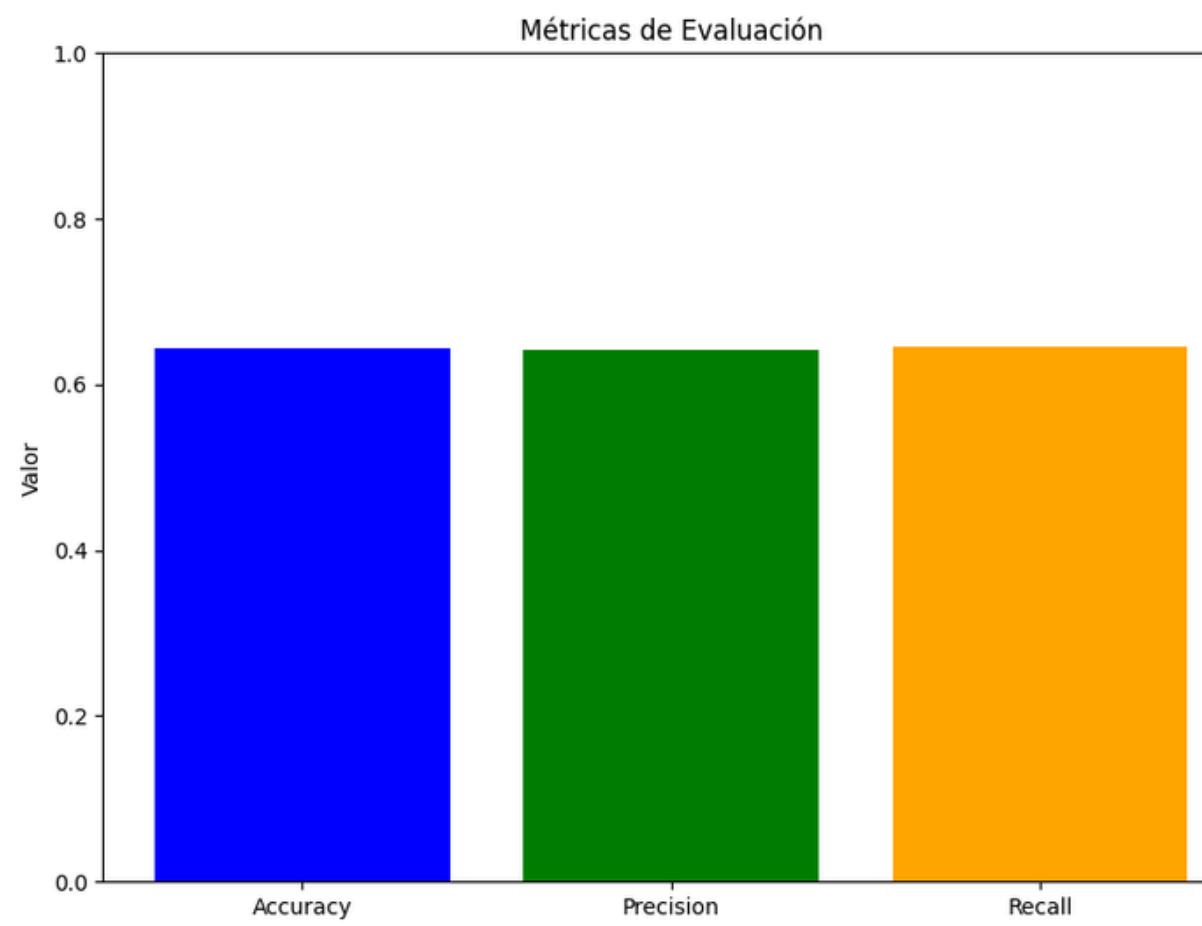
Dataset Recorte

3985 imágenes para training

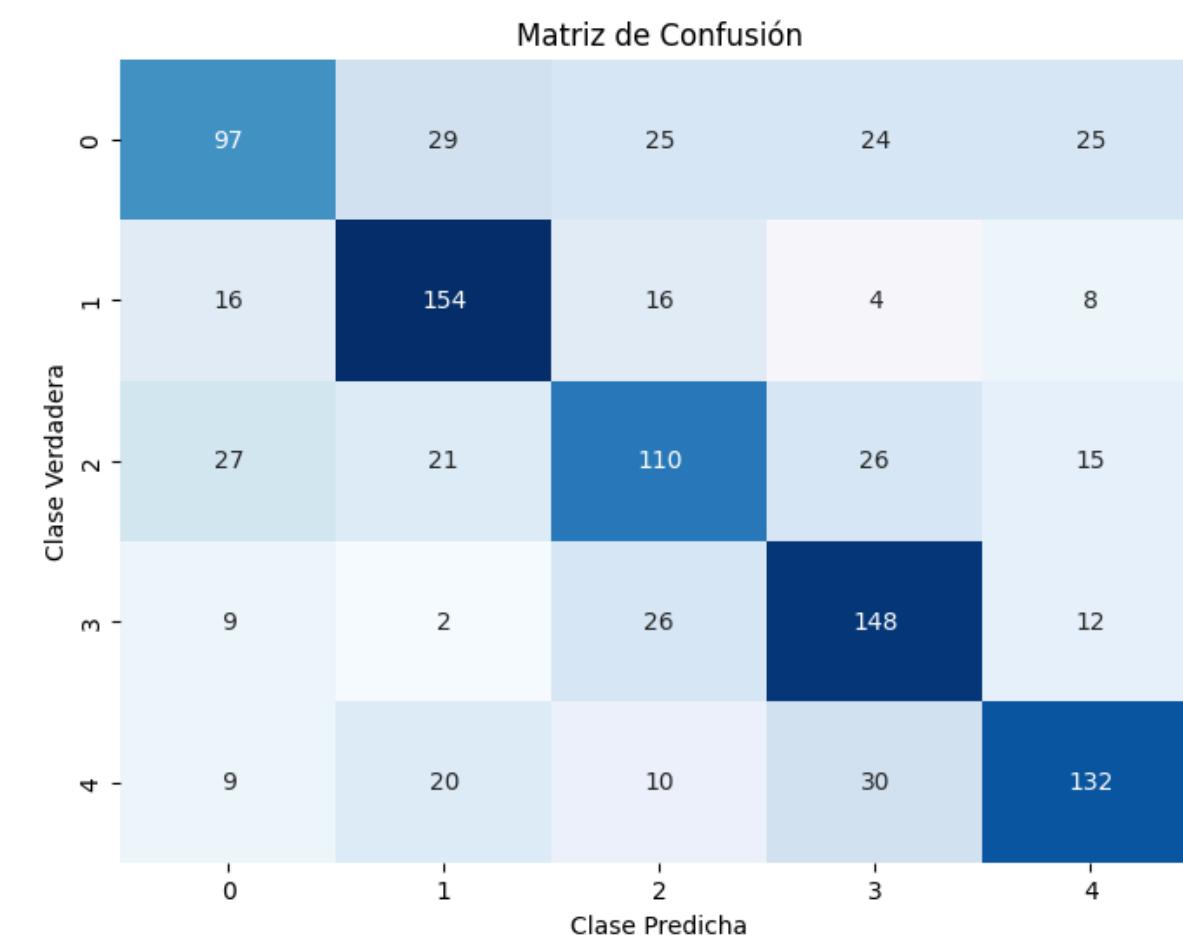
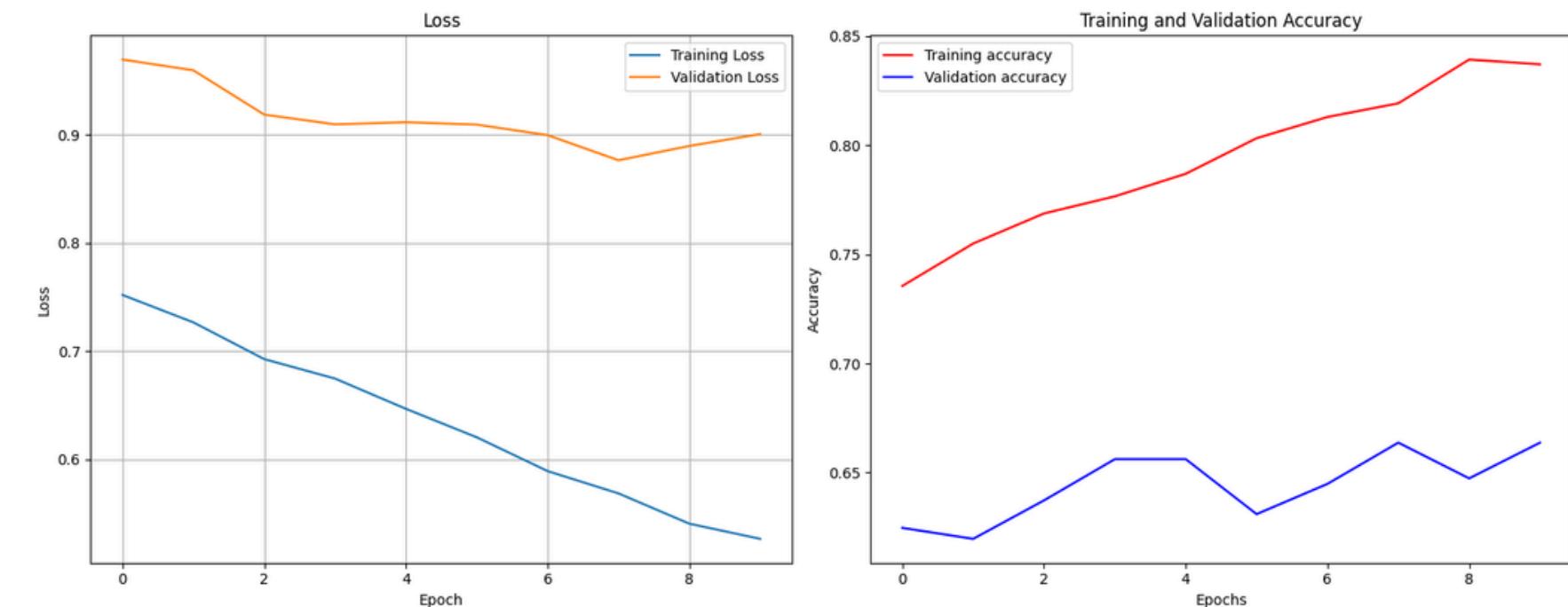
Found 3191 images belonging to 5 classes.
Found 794 images belonging to 5 classes.

995 imágenes para testing

Found 995 images belonging to 5 classes.



Tras 20 epochs...



Accuracy = 64.42%

Landmarks





shape_predictor_68_face_landmarks

Landmarks sobre la imagen

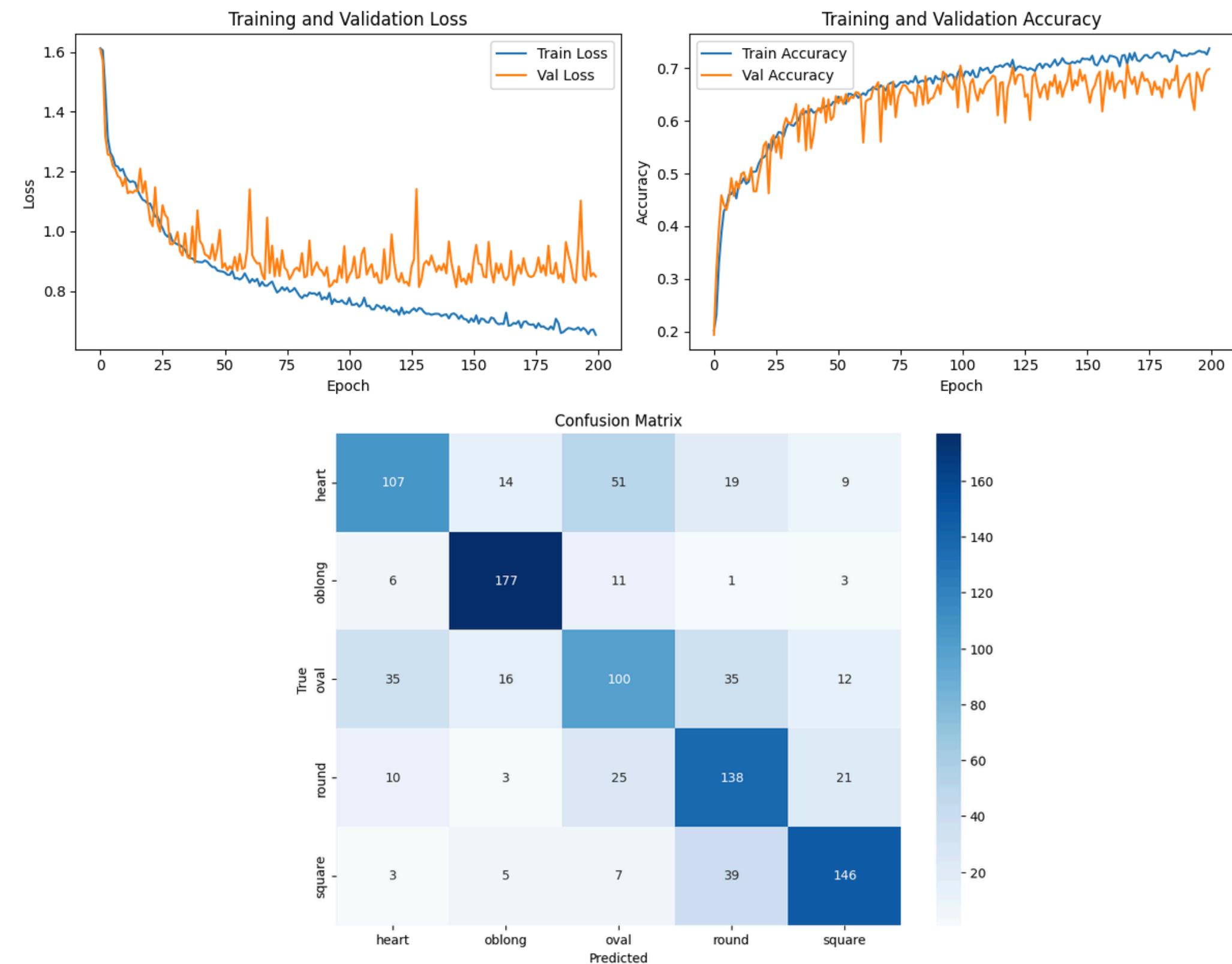


Landmarks Específicos sobre la imagen





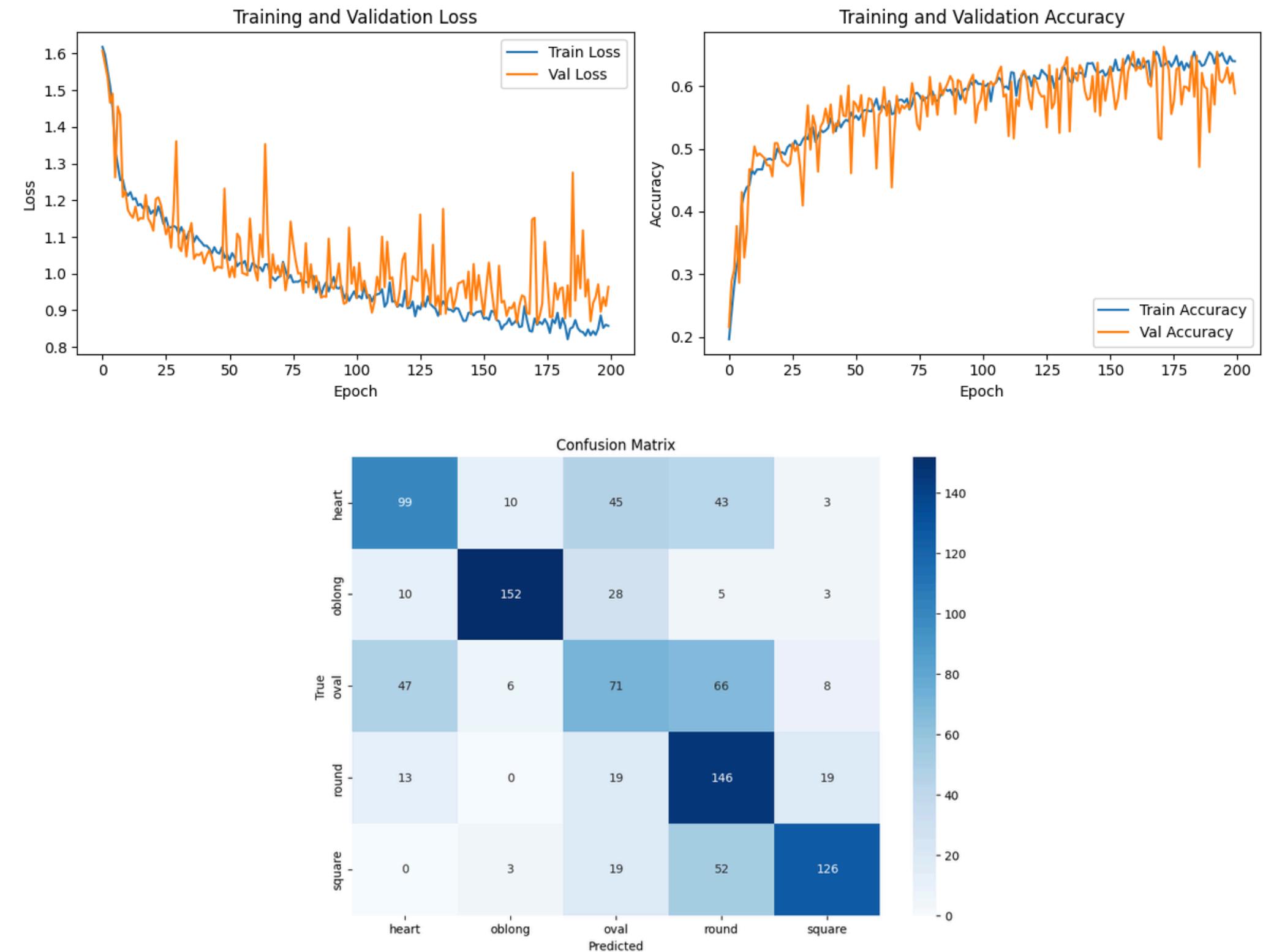
```
Model: "sequential_10"
Layer (type)          Output Shape       Param #
=====
reshape_10 (Reshape)    (None, 68, 2, 1)      0
conv2d_20 (Conv2D)     (None, 68, 2, 32)     64
max_pooling2d_9 (MaxPooling2D) (None, 34, 2, 32) 0
conv2d_21 (Conv2D)     (None, 34, 2, 64)    2112
flatten_10 (Flatten)   (None, 4352)        0
dense_32 (Dense)       (None, 128)        557184
dense_33 (Dense)       (None, 64)         8256
dense_34 (Dense)       (None, 64)         4160
dense_35 (Dense)       (None, 5)          325
=====
Total params: 572101 (2.18 MB)
Trainable params: 572101 (2.18 MB)
Non-trainable params: 0 (0.00 Byte)
```



Landmarks generales
Accuracy = 67.27%



```
Model: "sequential_10"
Layer (type)          Output Shape       Param #
=====
reshape_10 (Reshape)    (None, 68, 2, 1)      0
conv2d_20 (Conv2D)     (None, 68, 2, 32)     64
max_pooling2d_9 (MaxPooling2D) (None, 34, 2, 32) 0
conv2d_21 (Conv2D)     (None, 34, 2, 64)    2112
flatten_10 (Flatten)   (None, 4352)        0
dense_32 (Dense)       (None, 128)        557184
dense_33 (Dense)       (None, 64)         8256
dense_34 (Dense)       (None, 64)         4160
dense_35 (Dense)       (None, 5)          325
=====
Total params: 572101 (2.18 MB)
Trainable params: 572101 (2.18 MB)
Non-trainable params: 0 (0.00 Byte)
```

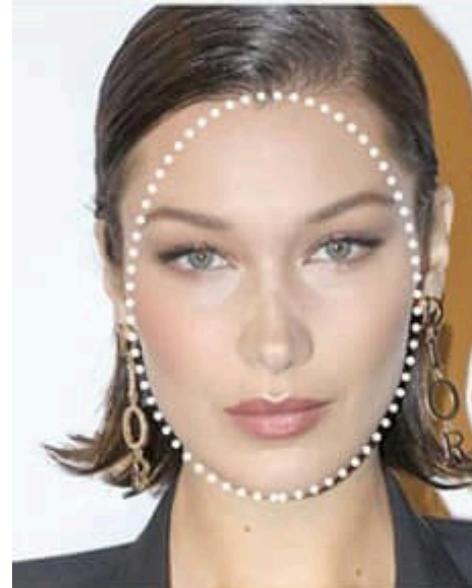


Landmarks específicos
Accuracy = 59.81%



¡Muchas
gracias!

OVAL



SQUARE



ROUND



HEART



CHARACTERISTICS

Length of face is longer than width

Strong, angled jawline

Width and length are the same

Hairline is the widest part of the face