

# Celebrity Image Classification - Summary

The task is to develop an image classification model trained on the given celebrity image dataset. The model aims to classify any input image into one of five classes - Lionel Messi, Roger Federer, Maria Sharapova, Serena Williams and Virat Kohli.

The dataset is split into training and testing sets in the ratio 3:1.

The model architecture used is Convolutional Neural Network (CNN) with a sequential model involving two convolutional layers. The model summary is as follows:

Model: "sequential"

Layer (type)	Output Shape	Param #
conv2d (Conv2D)	(None, 126, 126, 32)	896
max_pooling2d (MaxPooling2D)	(None, 63, 63, 32)	0
conv2d_1 (Conv2D)	(None, 61, 61, 64)	18496
max_pooling2d_1 (MaxPooling2D)	(None, 30, 30, 64)	0
dropout (Dropout)	(None, 30, 30, 64)	0
flatten (Flatten)	(None, 57600)	0
dense (Dense)	(None, 64)	3686464
dense_1 (Dense)	(None, 5)	325

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Total params: 3706181 (14.14 MB)  
Trainable params: 3706181 (14.14 MB)  
Non-trainable params: 0 (0.00 Byte)

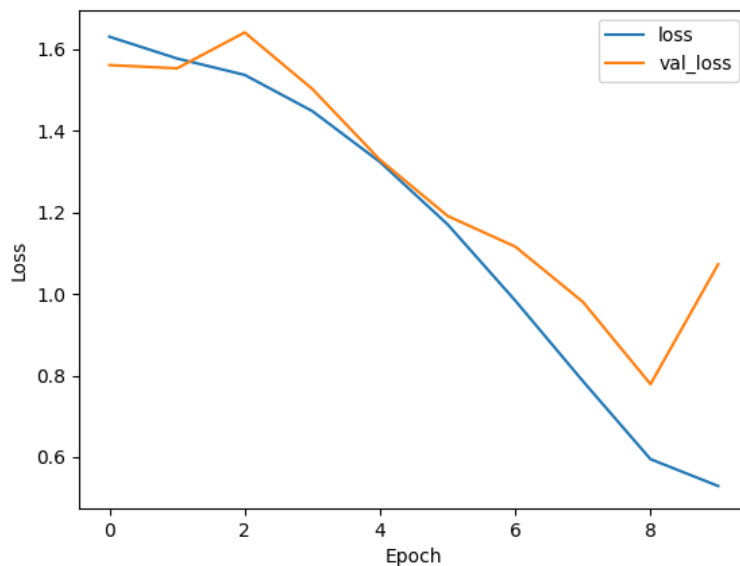
The Adam optimizer is employed along with the Sparse Categorical Cross-Entropy loss function.

The model is trained on the given data for 10 epochs with batches of size 64, and 10% of the training data is reserved for validation.

The resultant model has an accuracy of 71.43%. The classification report obtained is as follows:

classification Report				
	precision	recall	f1-score	support
0	0.78	1.00	0.88	7
1	0.75	0.90	0.82	10
2	0.75	0.67	0.71	9
3	1.00	0.33	0.50	9
4	0.50	0.71	0.59	7
accuracy			0.71	42
macro avg	0.76	0.72	0.70	42
weighted avg	0.77	0.71	0.70	42

The loss is plotted as follows:



The accuracy is plotted as given below:

