

## Model Development Phase Template

Date	29 November 2024
Team ID	739984
Project Title	AI-Generated vs. Real Image Classifier Using Deep Learning.
Maximum Marks	10 Marks

### Initial Model Training Code, Model Validation and Evaluation Report

The initial model training code will be showcased in the future through a screenshot. The model validation and evaluation report will include a summary and training and validation performance metrics for multiple models, presented through respective screenshots.

### Initial Model Training Code (5 marks):

Paste the screenshot of the model training code

### Model Validation and Evaluation Report (5 marks):

Model	Summary	Training and Validation Performance Metrics
CNN	<pre> Layer (type)      Output Shape      Param # ----- conv2d (Conv2D)   (None, 40, 40, 32)  896 max_pooling2d (MaxPooling2D) (None, 20, 20, 32)  0 dropout (Dropout) (None, 20, 20, 32)  0 conv2d_1 (Conv2D) (None, 20, 20, 64)  18,496 max_pooling2d_1 (MaxPooling2D) (None, 10, 10, 64)  0 dropout_1 (Dropout) (None, 10, 10, 64)  0 conv2d_2 (Conv2D) (None, 8, 8, 128)  73,664 max_pooling2d_2 (MaxPooling2D) (None, 4, 4, 128)  0 dropout_2 (Dropout) (None, 4, 4, 128)  0 conv2d_3 (Conv2D) (None, 2, 2, 256)  295,168 max_pooling2d_3 (MaxPooling2D) (None, 1, 1, 256)  0 dropout_3 (Dropout) (None, 1, 1, 256)  0 flatten (Flatten) (None, 256)  0 dense (Dense)      (None, 64)  16,448 dense_1 (Dense)    (None, 64)  4,160 dense_2 (Dense)    (None, 1)  64  Total params: 480,880 (1.56 MB) Trainable params: 480,880 (1.56 MB) </pre>	<pre> Epoch 1/15 112/112 ----- 3s 22ms/step - accuracy: 0.5873 - loss: 0.6677 Epoch 2/15 112/112 ----- 2s 22ms/step - accuracy: 0.5878 - loss: 0.6745 Epoch 3/15 112/112 ----- 2s 22ms/step - accuracy: 0.6482 - loss: 0.6406 Epoch 4/15 112/112 ----- 3s 23ms/step - accuracy: 0.6980 - loss: 0.5928 Epoch 5/15 112/112 ----- 3s 23ms/step - accuracy: 0.6769 - loss: 0.5797 Epoch 6/15 112/112 ----- 3s 23ms/step - accuracy: 0.6938 - loss: 0.5748 Epoch 7/15 112/112 ----- 3s 22ms/step - accuracy: 0.7113 - loss: 0.5556 Epoch 8/15 112/112 ----- 3s 23ms/step - accuracy: 0.7685 - loss: 0.5821 Epoch 9/15 112/112 ----- 3s 23ms/step - accuracy: 0.7472 - loss: 0.5807 Epoch 10/15 112/112 ----- 3s 23ms/step - accuracy: 0.7779 - loss: 0.4568 Epoch 11/15 112/112 ----- 3s 23ms/step - accuracy: 0.7811 - loss: 0.4444 Epoch 12/15 112/112 ----- 3s 23ms/step - accuracy: 0.7955 - loss: 0.4432 Epoch 13/15 ... Epoch 14/15 112/112 ----- 3s 25ms/step - accuracy: 0.8188 - loss: 0.4833 Epoch 15/15 112/112 ----- 3s 22ms/step - accuracy: 0.8262 - loss: 0.3778 Output is truncated. View as a scrollable element or open in a text editor. Adjust cell output settings... </pre>