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| --- |
| ***~~12              DATE          :  16  November2022~~*** |
| ***~~TEAM CODE    : PNT2022TMID50948~~*** |
| ***~~PROJECT TITLE : Intelligent Vehicle Damage Assessment & Cost Estimator for Insurance Companies~~*** |

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"test\_datagen = ImageDataGenerator(rescale = 1./255)"

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"target\_size = (256, 256),\n",

"batch\_size = 10,\n",

"class\_mode = 'categorical')\n",

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"test\_set = test\_datagen.flow\_from\_directory('/content/drive/MyDrive/Car Damage Dataset/level/validation',\n",

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"Found 171 images belonging to 3 classes.\n"

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"from tensorflow.keras.layers import Dense, Flatten, Input\n",

"from tensorflow.keras.models import Model\n",

"from tensorflow.keras.preprocessing import image\n",

"from tensorflow.keras.preprocessing.image import ImageDataGenerator, load\_img\n",

"from tensorflow.keras.applications.vgg16 import VGG16, preprocess\_input\n",

"from glob import glob\n",

"import numpy as np\n",

"import matplotlib.pyplot as plt"

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"58889256/58889256 [==============================] - 3s 0us/step\n"

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"for layer in vgg.layers:\n",

" layer.trainable = False"

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"x = Flatten()(vgg.output)"

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"/usr/local/lib/python3.7/dist-packages/ipykernel\_launcher.py:7: UserWarning: `Model.fit\_generator` is deprecated and will be removed in a future version. Please use `Model.fit`, which supports generators.\n",

" import sys\n"

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"Epoch 8/100\n",

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"Epoch 14/100\n",

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"97/97 [==============================] - 18s 189ms/step - loss: 0.0824 - acc: 0.9917 - val\_loss: 3.8459 - val\_acc: 0.7059\n",

"Epoch 100/100\n",

"97/97 [==============================] - 18s 189ms/step - loss: 0.0458 - acc: 0.9897 - val\_loss: 3.8171 - val\_acc: 0.6941\n"

]

}

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"model1.save('body.h5')"

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"execution\_count": null,

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"from tensorflow.keras.models import load\_model\n",

"import cv2\n",

"from skimage.transform import resize"

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"model=load\_model('/content/drive/MyDrive/level.h5/')"

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"def detect(frame):\n",

" img = cv2.resize(frame,(256,256)) #resizing the image to model trained image size\n",

" img = cv2.cvtColor(img,cv2.COLOR\_BGR2RGB) # uploaded image is in the form of BGR,so convert to RGB\n",

" # scaling need to be done\n",

" if(np.max(img)>1):\n",

" img = img/255.0\n",

" img = np.array([img]) #then to array fpormat\n",

" prediction = model. predict (img)\n",

" print(prediction)\n",

" label = [\"minor\",\"moderate\",\"severe\"]\n",

" preds = label[np.argmax(prediction)]\n",

" return preds"

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"import numpy as np"

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"data = '/content/drive/MyDrive/Colab Notebooks/moderate-car-damage-300x263.jpg'\n",

"image = cv2.imread(data)\n",

"print (detect(image))"

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"metadata": {

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"name": "stdout",

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"1/1 [==============================] - 0s 126ms/step\n",

"[[3.9014634e-05 9.9909949e-01 8.6151168e-04]]\n",

"moderate\n"

]

}

]

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