

DATE : 08.11.2022

TEAM ID : PNT2022TMID60366

PROJECT NAME : DIGITAL NATURALIST-AI ENABLED TOOLS FOR BIODIVERSITY RESEARCHERS

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IMPORTING REQUIRED LIBRARIES:

```

From keras.preprocessing.image import ImageDataGenerator\n",

import cv2\n",

from os import listdir\n",

import time\n",

```

DATA AUGMENT FUNCTION:

```

def augment_data(file_dir, n_generated_samples, save_to_dir):\n",

    data_gen = ImageDataGenerator(rotation_range=30, \n",

        width_shift_range=0.1,\n",

        height_shift_range=0.15, \n",

```

```

        shear_range=0.25, \n",
        zoom_range = 0.2,\n",
        horizontal_flip=True, \n",
        vertical_flip=False, \n",
        fill_mode='nearest',\n"
        brightness_range=(0.5,1.2)\n",

for filename in listdir(file_dir):\n",

    image = cv2.imread(file_dir+'/'+filename\n",

    image = cv2.cvtColor(image,cv2.COLOR_BGR2RGB)\n",

    image = image.reshape((1,)+image.shape)\n",

    save_prefix = 'aug_' + filename[:-4] \n",

i=0\n",

    for batch in data_gen.flow(x=image, batch_size=1, save_to_dir=save_to_dir,

                               save_prefix=save_prefix, save_format='jpg') \n",

        i += 1\n",\n",

        if i > n_generated_samples:\n",

            break\n",

"augmented_data_path = '/content/Augument Dataset'\n",

"augment_data(file_dir='/content/Digital Naturalist Dataset/Bird/Great Indian Bustard Bird',
n_generated_samples=20, save_to_dir=augmented_data_path+'/GIB_AUG')\n",

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