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    "# TEAM ID: PNT2022TMID40614
    "# TEAM Lead:P.Divya
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```
  "# IMPORTING NECESSARY LIBRARIES"
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  "import os\n",
  "import cv2\n",
  "import numpy as np\n",
  "import matplotlib.pyplot as plt\n",
  "from keras.preprocessing.image import ImageDataGenerator\n"
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  "def rename_imgs(file_name):\n",
  "    folder_path = r'test_dataset/'+file_name\n",
  "\n",
  "    num = 0\n",
  "    for file in os.listdir(folder_path):\n",
  "        # if num%10 == 0:\n",
  "        #     print(f'Renamed {num} files...')\n",
  "        # os.rename(folder_path+'\\\\\\'+file, folder_path+'\\\\\\'+file_name+'_'+str(num)+'.jpeg')\n",
  "        num += 1"
 ]
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 ]

 }

],

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```
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  "    rename_imgs(fn)"
 ]
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```

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 ]
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  "def display(img,sign=None):\n",
  "    \n",
  "    img = cv2.cvtColor(img,cv2.COLOR_BGR2RGB)\n",
  "    fig = plt.figure(figsize=(7,7))\n",
  "    ax = fig.add_subplot(111)\n",
  "    plt.title(sign)\n",
  "    ax.imshow(img)"
 ]
```

```
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  "display(sign_img,'a')"
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```

```
  "display(sign_img,'M')"
 ]
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  "                               height_shift_range=0.1,\n",
  "                               shear_range=0.2,\n",
  "                               zoom_range=0.2,\n",
  "                               rescale=1/255,\n",
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  "                               fill_mode='nearest',\n",
  "                               validation_split=0.25)"
 ]
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 },
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 ]
```

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   "name": "stdout",
   "output_type": "stream",
   "text": [
    "Found 41625 images belonging to 37 classes.\n"
   ]
  }
```

```
 ],
 "source": [
  "train_data_gen = image_gen.flow_from_directory(train_data_path,\n",
  "                                               target_size=(250,250),\n",
  "                                               batch_size=16,\n",
  "                                               shuffle=True,\n",
  "                                               class_mode='binary',\n",
  "                                               subset='training')"
 ]
},
{
 "cell_type": "markdown",
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 "metadata": {},
 "source": [
  "## Validation Data Generator"
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 "metadata": {},
 "outputs": [
  {
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  "output_type": "stream",
  "text": [
   "Found 13875 images belonging to 37 classes.\n"
  ]
 }
],
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 "                                    batch_size=16,\n",
 "                                    shuffle=True,\n",
 "                                    class_mode='binary',\n",
 "                                    subset='validation')"
]
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{
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 "metadata": {},
 "source": [
  "## Test Data Generator"
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},
{
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   "output_type": "stream",
   "text": [
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   ]
  }
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  "                                              target_size=(250,250),\n",
  "                                              batch_size=8,\n",
  "                                              shuffle=True,\n",
  "                                              class_mode='categorical',\n",
  "                                              )"
 ]
},
{
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   "text/plain": [
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    " '1': 1,\n",
    " '2': 2,\n",
    " '3': 3,\n",
    " '4': 4,\n",
    " '5': 5,\n",
    " '6': 6,\n",
    " '7': 7,\n",
    " '8': 8,\n",
    " '9': 9,\n",
    " 'A': 10,\n",
    " 'B': 11,\n",
    " 'C': 12,\n",
    " 'D': 13,\n",
    " 'E': 14,\n",
    " 'F': 15,\n",
    " 'G': 16,\n",
    " 'H': 17,\n",
    " 'I': 18,\n",
```

```
    " 'J': 19,\n",
    " 'K': 20,\n",
    " 'L': 21,\n",
    " 'M': 22,\n",
    " 'N': 23,\n",
    " 'O': 24,\n",
    " 'P': 25,\n",
    " 'Q': 26,\n",
    " 'R': 27,\n",
    " 'S': 28,\n",
    " 'Space': 29,\n",
    " 'T': 30,\n",
    " 'U': 31,\n",
    " 'V': 32,\n",
    " 'W': 33,\n",
    " 'X': 34,\n",
    " 'Y': 35,\n",
    " 'Z': 36}"
   ]
  },
  "execution_count": 31,
  "metadata": {},
  "output_type": "execute_result"
 }
],
```

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},
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    "text/plain": [
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    ]
   },
   "execution_count": 34,
   "metadata": {},
   "output_type": "execute_result"
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 ]
},
```

```
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    "text/plain": [
     "41625"
    ]
   },
   "execution_count": 35,
   "metadata": {},
   "output_type": "execute_result"
  }
 ],
 "source": [
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 ]
},
{
 "cell_type": "code",
 "execution_count": 36,
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     "2586"
    ]
   },
   "execution_count": 36,
   "metadata": {},
   "output_type": "execute_result"
  }
 ],
 "source": [
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 ]
},
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}
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   "name": "python3"
  },
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   "codemirror_mode": {
    "name": "ipython",
    "version": 3
   },
   "file_extension": ".py",
   "mimetype": "text/x-python",
   "name": "python",
   "nbconvert_exporter": "python",
   "pygments_lexer": "ipython3",
   "version": "3.8.7"
  }
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