Date	07 November 2022
Team ID	PNT2022TMID12899
Project Name	Fertilizers Recommendation System for disease prediction


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

"train_datagen=ImageDataGenerator(rescale=1./255,shear_range=0.2,zoom_range=0.2,horizontal_flip=True)\n",
    "test_datagen=ImageDataGenerator(rescale=1)"
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```
   "x_train=train_datagen.flow_from_directory(r'C:\\Users\\uma25\\project\\Dataset Plant Disease\\fruit-dataset\\fruit-dataset\\train',target_size=(128,128),batch_size=2,class_mode='categorical')\n",

   "x_test=test_datagen.flow_from_directory(r'C:\\Users\\uma25\\project\\Dataset Plant Disease\\fruit-dataset\\fruit-dataset\\test',target_size=(128,128),batch_size=2,class_mode='categorical')"

  ]

 },

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   "from keras.models import Sequential\n",

   "from keras.layers import Dense\n",

   "from keras.layers import Convolution2D\n",

   "from keras.layers import MaxPooling2D\n",

   "from keras.layers import Flatten"

  ]

 },

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  "model=Sequential()"

  ]

 },
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```
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  "model.add(Convolution2D(32,(3,3),input_shape=(128,128,3),activation='relu'))"
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{
```

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 "model.add(Dense(units=40,kernel_initializer='uniform',activation='relu'))\n",
 "model.add(Dense(units=70,kernel_initializer='random_uniform',activation='relu'))\n",
 "model.add(Dense(units=6,kernel_initializer='random_uniform',activation='softmax'))"
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 "model.compile(loss='categorical_crossentropy',optimizer=\"adam\",metrics=[\"accuracy\"])"
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"Epoch 1/3\n",

"168/168 [==============================] - 45s 229ms/step - loss: 1.4802 - accuracy: 0.4315 - val_loss: 119.8421 - val_accuracy:

0.5577\n","Epoch 2/3\n",

"168/168 [==============================] - 38s 223ms/step - loss: 1.0562 - accuracy: 0.5982 - val_loss: 107.7073 - val_accuracy:

0.5288\n","Epoch 3/3\n",

"168/168 [==============================] - 36s 216ms/step - loss: 0.8406 - accuracy: 0.6905 - val_loss: 97.8494 - val_accuracy: 0.8173\n"

]

},

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"<keras.callbacks.History at 0x1e34c9b7310>"

]

},

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"model.fit(x_train,steps_per_epoch=168,epochs=3,validation_data=x_test,validation_steps=52)"

]

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    "_________________________________\n",
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    "=================================================================
    =====\n",
    " conv2d (Conv2D)             (None, 126, 126, 32)      896       \n",
    "                                                                 \n",
    " max_pooling2d (MaxPooling2D  (None, 63, 63, 32)      0         \n",
    " )                                                               \n",
    "                                                                 \n",
    " flatten (Flatten)           (None, 127008)            0         \n",
    "                                                                 \n",
    " dense (Dense)               (None, 40)                5080360   \n",
    "                                                                 \n",
    " dense_1 (Dense)             (None, 70)                2870      \n",
    "                                                                 \n",
    " dense_2 (Dense)             (None, 6)                 426       \n",
    "                                                                 \n",
```

```
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    "_________________________\n"
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