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"execution\_count": 1,

"id": "528e58d7",

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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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"Found 11386 images belonging to 9 classes.\n",

"Found 3416 images belonging to 9 classes.\n"

]

}

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"source": [

"x\_train = train\_datagen.flow\_from\_directory(r'C:\\Users\\Admin\\Desktop\\NalaiyaThiran\\Fertilizers\_Recommendation\_ System\_For\_Disease\_ Prediction\\Dataset Plant Disease\\Veg-dataset\\Veg-dataset\\train\_set',target\_size = (128,128), batch\_size = 32, class\_mode = 'categorical')\n",

"x\_test = test\_datagen.flow\_from\_directory(r'C:\\Users\\Admin\\Desktop\\NalaiyaThiran\\Fertilizers\_Recommendation\_ System\_For\_Disease\_ Prediction\\Dataset Plant Disease\\Veg-dataset\\Veg-dataset\\test\_set',target\_size = (128,128), batch\_size = 32, 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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"model.add(Convolution2D(32,(3,3),input\_shape=(128,128,3),activation='relu'))"

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"cell\_type": "code",

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"model.add(MaxPooling2D(pool\_size=(2,2)))"

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"cell\_type": "code",

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"model.add(Flatten())"

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"cell\_type": "code",

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"model.add(Dense(units=300,kernel\_initializer='uniform',activation='relu'))"

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"model.add(Dense(units=150,kernel\_initializer='uniform',activation='relu'))"

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"model.add(Dense(units=75,kernel\_initializer='uniform',activation='relu'))"

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"model.add(Dense(units=9,kernel\_initializer='uniform',activation='softmax'))"

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"cell\_type": "code",

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"metadata": {},

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"model.compile(loss='categorical\_crossentropy',optimizer=\"adam\",metrics=[\"accuracy\"])"

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"{'Pepper,\_bell\_\_\_Bacterial\_spot': 0,\n",

" 'Pepper,\_bell\_\_\_healthy': 1,\n",

" 'Potato\_\_\_Early\_blight': 2,\n",

" 'Potato\_\_\_Late\_blight': 3,\n",

" 'Potato\_\_\_healthy': 4,\n",

" 'Tomato\_\_\_Bacterial\_spot': 5,\n",

" 'Tomato\_\_\_Late\_blight': 6,\n",

" 'Tomato\_\_\_Leaf\_Mold': 7,\n",

" 'Tomato\_\_\_Septoria\_leaf\_spot': 8}"

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"x\_train.class\_indices"

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"cell\_type": "code",

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"model.save(r'C:\\Users\\Admin\\Desktop\\NalaiyaThiran.h5')"

]

},

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"Model: \"sequential\"\n",

"\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\n",

"Layer (type) Output Shape Param # \n",

"=================================================================\n",

"conv2d (Conv2D) (None, 126, 126, 32) 896 \n",

"\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\n",

"max\_pooling2d (MaxPooling2D) (None, 63, 63, 32) 0 \n",

"\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\n",

"flatten (Flatten) (None, 127008) 0 \n",

"\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\n",

"dense (Dense) (None, 300) 38102700 \n",

"\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\n",

"dense\_1 (Dense) (None, 150) 45150 \n",

"\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\n",

"dense\_2 (Dense) (None, 75) 11325 \n",

"\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\n",

"dense\_3 (Dense) (None, 9) 684 \n",

"=================================================================\n",

"Total params: 38,160,755\n",

"Trainable params: 38,160,755\n",

"Non-trainable params: 0\n",

"\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\n"

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"source": [

"model.summary()"

]

}

],

"metadata": {

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"pygments\_lexer": "ipython3",

"version": "3.9.13"

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