

CNN Architecture

Model: "sequential"

Layer (type)	Output Shape	Param #
conv2d (Conv2D)	(None, 200, 200, 32)	896
conv2d_1 (Conv2D)	(None, 200, 200, 32)	9248
max_pooling2d (MaxPooling2D)	(None, 100, 100, 32)	0
dropout (Dropout)	(None, 100, 100, 32)	0
conv2d_2 (Conv2D)	(None, 100, 100, 64)	18496
conv2d_3 (Conv2D)	(None, 100, 100, 64)	36928
max_pooling2d_1 (MaxPooling2D)	(None, 50, 50, 64)	0
dropout_1 (Dropout)	(None, 50, 50, 64)	0
flatten (Flatten)	(None, 160000)	0
dense (Dense)	(None, 128)	20480128
dropout_2 (Dropout)	(None, 128)	0
dense_1 (Dense)	(None, 6)	774

Total params: 20,546,470

Trainable params: 20,546,470

Non-trainable params: 0

```
from keras.models import Sequential
from keras.layers import Dense, Dropout, Flatten, Conv2D, MaxPool2D
input_shape = (200, 200, 3)
num_classes = 6
model = Sequential()
model.add(Conv2D(32, kernel_size=(3, 3), activation='relu', padding = 'Same', input_shape=input_shape))
model.add(Conv2D(32, kernel_size=(3, 3), activation='relu', padding = 'Same',))
model.add(MaxPool2D(pool_size = (2, 2)))
model.add(Dropout(0.25))

model.add(Conv2D(64, (3, 3), activation='relu', padding = 'Same'))
model.add(Conv2D(64, (3, 3), activation='relu', padding = 'Same'))
model.add(MaxPool2D(pool_size=(2, 2)))
model.add(Dropout(0.40))

model.add(Flatten())
model.add(Dense(128, activation='relu'))
model.add(Dense(num_classes, activation='softmax'))
model.summary()
```

CNN Architecture with 6 convolution layer

Model: "sequential"

Layer (type)	Output Shape	Param #
conv2d (Conv2D)	(None, 200, 200, 32)	896
conv2d_1 (Conv2D)	(None, 200, 200, 32)	9248
conv2d_2 (Conv2D)	(None, 200, 200, 32)	9248
max_pooling2d (MaxPooling2D)	(None, 100, 100, 32)	0
dropout (Dropout)	(None, 100, 100, 32)	0
conv2d_3 (Conv2D)	(None, 100, 100, 64)	18496
conv2d_4 (Conv2D)	(None, 100, 100, 64)	36928
conv2d_5 (Conv2D)	(None, 100, 100, 64)	36928
max_pooling2d_1 (MaxPooling2D)	(None, 50, 50, 64)	0
dropout_1 (Dropout)	(None, 50, 50, 64)	0
flatten (Flatten)	(None, 160000)	0
dense (Dense)	(None, 128)	20480128
dropout_2 (Dropout)	(None, 128)	0
dense_1 (Dense)	(None, 6)	774

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Total params: 20,592,646

Trainable params: 20,592,646

Non-trainable params: 0

```

from keras.models import Sequential
from keras.layers import Dense, Dropout, Flatten, Conv2D, MaxPool2D
input_shape = (200, 200, 3)
num_classes = 6
model = Sequential()
model.add(Conv2D(32, kernel_size=(3, 3), activation='relu', padding = 'Same', input_shape=input_shape))
model.add(Conv2D(32, kernel_size=(3, 3), activation='relu', padding = 'Same',))
model.add(Conv2D(32, kernel_size=(3, 3), activation='relu', padding = 'Same',))
model.add(MaxPool2D(pool_size = (2, 2)))
model.add(Dropout(0.25))
model.add(Conv2D(64, (3, 3), activation='relu', padding = 'Same'))
model.add(Conv2D(64, (3, 3), activation='relu', padding = 'Same'))
model.add(Conv2D(64, (3, 3), activation='relu', padding = 'Same'))
model.add(MaxPool2D(pool_size=(2, 2)))
model.add(Dropout(0.40))
model.add(Flatten())
model.add(Dense(128, activation='relu'))
model.add(Dropout(0.5))
model.add(Dense(num_classes, activation='softmax'))
model.summary()

```