

max_pooling2d_16 (MaxPooling (None, 17, 17, 128))	0
conv2d_18 (Conv2D)	(None, 15, 15, 128) 147584
max_pooling2d_17 (MaxPooling (None, 7, 7, 128))	0
flatten_5 (Flatten)	(None, 6272) 0
dense_9 (Dense)	(None, 64) 401472
dense_10 (Dense)	(None, 4) 260
=====	
Total params: 642,564	
Trainable params: 642,564	
Non-trainable params: 0	

- Go to Dir
- Read the image
- Convert into array
- 255
- Feed.

```
[29] 1 from keras import optimizers
      2 from keras.preprocessing.image import ImageDataGenerator
      3
      4 adam = optimizers.adam(lr=1e-4)
      5 model.compile(loss='categorical_crossentropy', optimizer=adam, metrics=['acc'])
```

```
1 train_gen = ImageDataGenerator(rescale=1.0/255) ✓
2
3 train_generator = train_gen.flow_from_directory(.)
4
```

```
3 print(y.shape)
4 break
```

```
(32, 150, 150, 3)
(32, 4)
```

Handwritten notes:

- 208 (circled)
- $\frac{208}{1}$ (with a line under 1)
- $\text{batch-size} = 32$
- 7 steps (with a line under 7)
- 210

```
1 # Train our model
2
3 history = model.fit_generator(
4     train_generator,
5     epochs = 20,
6     steps_per_epoch = ____
7
8 )
```