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## Week 1 Quiz

Latest Submission Grade 100%

1. What does `flow_from_directory` give you on the `ImageDataGenerator`?

1 / 1 point

- ☐ The ability to easily load images for training
- ☐ The ability to pick the size of training images
- ☐ The ability to automatically label images based on their directory name
- ☒ All of the above

✔ **Correct**  
That's right! The `flow_from_directory` method takes the path to a directory & generates batches of augmented data.

2. If my Image is sized 150x150, and I pass a 3x3 Convolution over it, what size is the resulting image?

1 / 1 point

- ☒ 148x148
- ☐ 150x150
- ☐ 153x153
- ☐ 450x450

✔ **Correct**  
Nailed it! Applying a 3x3 convolution would result in a 148x148 image.

3. If my data is sized 150x150, and I use Pooling of size 2x2, what size will the resulting image be?

1 / 1 point

- ☐ 149x149
- ☐ 148x148
- ☐ 300x300
- ☒ 75x75

✔ **Correct**  
Nailed it! Applying 2x2 pooling would result in a 75x75 image.

4. If I want to view the history of my training, how can I access it?

1 / 1 point

- ☒ Create a variable 'history' and assign it to the return of `model.fit` or `model.fit_generator`
- ☐ Pass the parameter 'history=true' to the `model.fit`
- ☐ Use a `model.fit_generator`
- ☐ Download the model and inspect it



Correct

Exactly! The History.history attribute is a record of training loss values and metrics values at successive epochs.

5. What's the name of the API that allows you to inspect the impact of convolutions on the images?

1 / 1 point

- ☐ The model.pools API
- ☐ The model.images API
- ☒ The model.layers API
- ☐ The model.convolution API



Correct

6. When exploring the graphs, the loss levelled out at about .75 after 2 epochs, but the accuracy climbed close to 1.0 after 15 epochs. What's the significance of this?

1 / 1 point

- ☐ There was no point training after 2 epochs, as we overfit to the validation data
- ☒ There was no point training after 2 epochs, as we overfit to the training data
- ☐ A bigger training set would give us better validation accuracy
- ☐ A bigger validation set would give us better training accuracy



Correct

Correct! Those values indicate overfitting to the training data.

7. Why is the validation accuracy a better indicator of model performance than training accuracy?

1 / 1 point

- ☐ It isn't, they're equally valuable
- ☐ There's no relationship between them
- ☒ The validation accuracy is based on images that the model hasn't been trained with, and thus a better indicator of how the model will perform with new images.
- ☐ The validation dataset is smaller, and thus less accurate at measuring accuracy, so its performance isn't as important



Correct

8. Why is overfitting more likely to occur on smaller datasets?

1 / 1 point

- ☐ Because in a smaller dataset, your validation data is more likely to look like your training data
- ☐ Because there isn't enough data to activate all the convolutions or neurons
- ☐ Because with less data, the training will take place more quickly, and some features may be missed
- ☒ Because there's less likelihood of all possible features being encountered in the training process.



Correct

Undoubtedly! A smaller size decreases the likelihood that the model will recognize all possible features during training.

