**References for Tensorflow Coursera Specialization**

**Course 1 – Introduction to AI, ML and Deep Learning**

**General References**

1. <https://deeplizard.com/learn/video/gZmobeGL0Yg>
2. <https://stackoverflow.com/questions/36946671/keras-model-summary-result-understanding-the-of-parameters>
3. <https://stackoverflow.com/questions/2480650/what-is-the-role-of-the-bias-in-neural-networks>
4. <https://towardsdatascience.com/counting-no-of-parameters-in-deep-learning-models-by-hand-8f1716241889>
5. <https://towardsdatascience.com/understanding-and-calculating-the-number-of-parameters-in-convolution-neural-networks-cnns-fc88790d530d>
6. <https://www.learnopencv.com/number-of-parameters-and-tensor-sizes-in-convolutional-neural-network/>
7. <https://machinelearningmastery.com/how-to-visualize-filters-and-feature-maps-in-convolutional-neural-networks/>
8. <https://towardsdatascience.com/visualising-filters-and-feature-maps-for-deep-learning-d814e13bd671>
9. <https://stats.stackexchange.com/questions/291820/what-is-the-definition-of-a-feature-map-aka-activation-map-in-a-convolutio>
10. <https://stackoverflow.com/questions/49201236/check-the-total-number-of-parameters-in-a-pytorch-model>
11. <https://towardsdatascience.com/how-to-calculate-the-number-of-parameters-in-keras-models-710683dae0ca>

**Week 3**

1. **Convolution and Pooling Layers**
2. <https://www.pyimagesearch.com/2016/07/25/convolutions-with-opencv-and-python/#:~:text=%20In%20image%20processing%2C%20a%20convolution%20requires%20three,input%20image%20convolved%20with%20the%20kernel.%20More%20>
3. <https://www.aishack.in/tutorials/convolutions/>
4. <https://www.tutorialspoint.com/dip/concept_of_convolution.htm>
5. <https://www.aishack.in/tutorials/image-convolution-examples/>
6. <https://en.wikipedia.org/wiki/Kernel_(image_processing)>
7. <https://setosa.io/ev/image-kernels/>
8. <https://docs.gimp.org/2.6/en/plug-in-convmatrix.html>
9. <https://towardsdatascience.com/types-of-convolution-kernels-simplified-f040cb307c37>
10. <https://stackoverflow.com/questions/58383477/creating-a-python-convolution-kernel>
11. <http://www.d2l.ai/chapter_convolutional-neural-networks/index.html>
12. <https://www.dynamsoft.com/blog/insights/image-processing/image-processing-101-spatial-filters-convolution/>
13. <https://www.saama.com/different-kinds-convolutional-filters/>
14. <https://www.youtube.com/watch?v=XuD4C8vJzEQ&list=PLkDaE6sCZn6Gl29AoE31iwdVwSG-KnDzF&index=2>
15. <http://www.songho.ca/dsp/convolution/convolution.html>
16. <http://courses.d2l.ai/berkeley-stat-157/index.html>
17. <https://www.tensorflow.org/api_docs/python/tf/keras/layers/Conv2D>
18. More about the Maths behind convolution - <https://www.youtube.com/watch?v=AgKQQtEc9dk&feature=emb_title>
19. <https://www.pyimagesearch.com/2018/12/31/keras-conv2d-and-convolutional-layers/>
20. **Pooling**
21. <https://www.tensorflow.org/api_docs/python/tf/keras/layers/MaxPool2D>
22. <https://www.youtube.com/playlist?list=PLkDaE6sCZn6Gl29AoE31iwdVwSG-KnDzF>
23. <https://machinelearningmastery.com/pooling-layers-for-convolutional-neural-networks/#:~:text=The%20addition%20of%20a%20pooling%20layer%20after%20the,of%20the%20same%20number%20of%20pooled%20feature%20maps>.
24. <https://analyticsindiamag.com/max-pooling-in-convolutional-neural-network-and-its-features/>
25. <https://arxiv.org/abs/1509.08985>
26. <https://www.superdatascience.com/blogs/convolutional-neural-networks-cnn-step-2-max-pooling/>
27. **CNN general refs**
28. <https://towardsdatascience.com/covolutional-neural-network-cb0883dd6529>
29. <https://www.analyticsvidhya.com/blog/2018/12/guide-convolutional-neural-network-cnn/>
30. <https://towardsdatascience.com/visualising-filters-and-feature-maps-for-deep-learning-d814e13bd671>
31. **About Filtering** - <https://lodev.org/cgtutor/filtering.html>

**Week 4**

1. Binary CrossEntropy - <https://gombru.github.io/2018/05/23/cross_entropy_loss/>
2. More about Batch Size - <https://androidkt.com/batch-size-step-iteration-epoch-neural-network/>
3. ML Crash Course Reference - <https://developers.google.com/machine-learning/crash-course/descending-into-ml/video-lecture>