

## **Introduction to Tensorflow for Artificial Intelligence, Machine Learning, and Deep Learning**

Week 3 - Experiment with filters & pools - <https://lodev.org/cgtutor/filtering.html>

Week 4 - Training the neural network - Understanding Categorical Cross-Entropy Loss, Binary Cross-Entropy Loss, Softmax Loss, Logistic Loss, Focal Loss and all those confusing names - [https://gombbru.github.io/2018/05/23/cross\\_entropy\\_loss/](https://gombbru.github.io/2018/05/23/cross_entropy_loss/)

RMSProp - [https://www.cs.toronto.edu/~tijmen/csc321/slides/lecture\\_slides\\_lec6.pdf](https://www.cs.toronto.edu/~tijmen/csc321/slides/lecture_slides_lec6.pdf)

## **Convolutional Neural Networks**

Week 2 - Image Augmentation - [https://keras.io/api/layers/preprocessing\\_layers/](https://keras.io/api/layers/preprocessing_layers/)  
[https://keras.io/api/layers/preprocessing\\_layers/image\\_augmentation/](https://keras.io/api/layers/preprocessing_layers/image_augmentation/)

## **Natural Language Processing**

Week 2 - Subword Tokenizer

KeralNLP Library - [https://keras.io/keras\\_hub/](https://keras.io/keras_hub/)

WordPiece Tokenizer - [https://keras.io/keras\\_hub/api/tokenizers/word\\_piece\\_tokenizer/](https://keras.io/keras_hub/api/tokenizers/word_piece_tokenizer/)  
[https://keras.io/keras\\_hub/api/tokenizers/compute\\_word\\_piece\\_vocabulary/](https://keras.io/keras_hub/api/tokenizers/compute_word_piece_vocabulary/)

WordPiece Algorithm Research Papers - <https://static.googleusercontent.com/media/research.google.com/en//pubs/archive/37842.pdf>

<https://arxiv.org/abs/2012.15524>