L2 & L1 regularization

L1 and L2 are the most common types of regularization. These update the general cost function by adding another term known as the regularization term.

Due to the addition of this regularization term, the values of weight matrices decrease because it assumes that a neural network with smaller weight matrices leads to simpler models. Therefore, it will also reduce overfitting to quite an extent.

Data Augmentation

The simplest way to reduce overfitting is to increase the size of the training data. In machine learning, we were not able to increase the size of training data as the labeled data was too costly.

data augmentation usually provides a big leap in improving the accuracy of the model. It can be considered as a mandatory trick in order to improve our predictions.

In keras, we can perform all of these transformations using ImageDataGenerator. It has a big list of arguments which we can use to pre-process our training data.