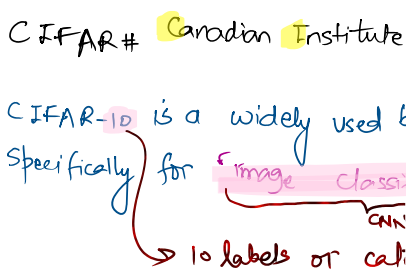
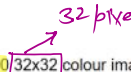


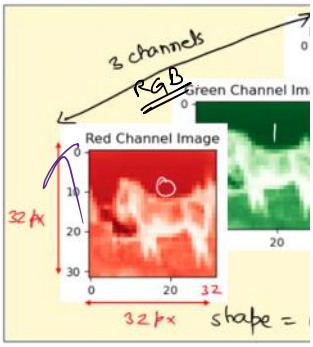
The CIFAR-10 dataset

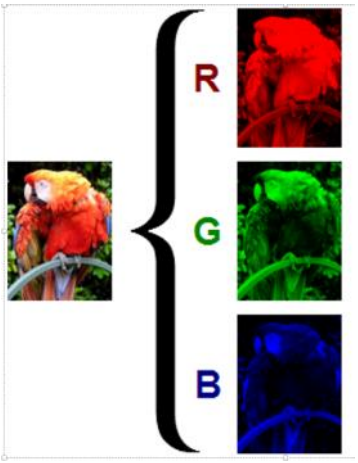


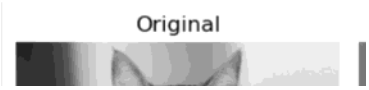
The CIFAR-10 dataset consists of 60000 32x32 colour ima

Shape of the training im

3-dimensional view of the 13th image from the training dataset (out of 50,000 images)







UNDERSTANDING THE CONVOLUTION STEP (FILTERING)

SOBEL X vs SOBEL Y FILTERS

that approximate the

in the horizontal (x)

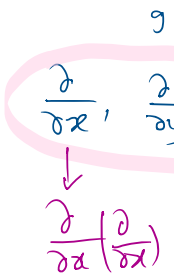
History: The SOBEL ope

an American comp

SOBEL X: $\begin{bmatrix} -1 \\ -2 \\ -1 \end{bmatrix}$

SOBEL X

LAPLACIAN FILTER



- In a region, it highlights where pixels intensity ch

Note: Unlike

Observations

1. Edges such as fur lines, more pronounced.
2. it provides the impression no new details were a

- sharpen filter enhances ed making the image crisp at the boundaries.

Common Filter/Kernel

GAUSSIAN BLUR FILTER

- it is used to reduce the nois
before the edge detection

common filter example:

3x3 kernel (σ =