

Building a Convolution Neural Network (CNN) model using the TensorFlow and CIFAR10 small images classification dataset.

The CIFAR-10 dataset consists of 60000 32x32 color images in 10 class.

These are 50000 training images and 10000 testing images.

Dataset and Preprocessing.

Dataset imported from keras.datasets

```
(train_images, train_labels), (test_images, test_labels) = cifar10.load_data()
```

Converting Data types

```
train_images = train_images.astype('float32') / 255
```

```
test_images = test_images.astype('float32') / 255
```

as the pixel values range from 0 to 256, so dividing all the values by 255 will convert it to range from 0 to 1

CNN model consist of following layers

2D Convolution Layer with relu activation function

Max Pooling 2D

Flatten Layer for converting multi-dimensional input tensors into a single dimension

Dense layer with relu activation function

Dense layer with softmax activation function

Adam optimizer

Categorical cross entropy loss function

Matric for evaluating model is Accuracy

Test accuracy results 71.12%