TEAM: **4**

**PROBLEM STATEMENT: Image compression over MNIST**

With the help of a Convolutional Auto encoder, we develop a deep learning system that compresses images into 128-dimensional dense vector and recreates the original image. Tools and Framework to be used are Tensor Flow and Keras.

**ABSTRACT:**

I***-* Image compression is one of the advantageous techniques in several types of multimedia services. And recently deep learning is so developed that it is being used for image compression. In image compression consider we have images of various dimensions. One such dimension is 28 by 28. Images are formed by combining red, green and blue (RGB) in various proportions to obtain any colour in the visible spectrum. Image is made up of pixels and have some noise in them. We propose a Convolutional Auto encoder neural network for image compression by taking MNIST (Modern National Institute of Standards and Technology) dataset where we up sample and downs sample an image. We take an image 28 by 28 image with noise, which is a RGB image. By developing deep learning image should be compressed to 28 by 1 dimensional dense vector. After the compression final resulting image should have the original dimension of 28 by 28. Main objective is to compress a image without affecting the quality of image radically.**

**KEYWORDS:** Image compression, Convolutional Auto encoder, MNIST, Deep learning , up sample, down sample, Convolutional Neural Network (CNN), noise, 128 dimensional dense vector.