

## **IMAGE STEGANOGRAPHY ANALYSIS USING DEEP LEARNING ALGORITHM**

In the past few years, information hiding techniques have been available but their importance has been increasing recently. The main reason is the increase in the data traffic through the internet and social media networks. Steganography is the art of hiding a secret message behind the normal message. Modern Steganography refers to the use of Electronic communication and digital technology to hide the message into digital media. Image Steganography can be considered one such Image reconstruction task where the cover image and secret information is taken as input to reconstruct a steganography. Image which is close to the cover image is resemblance. In traditional methods, LSB substitution techniques are used. The hiding capacity of the traditional method are limited as over burdening the cover image by exploiting more pixels for hiding the secret message may led to distortion. Deep learning is a useful tool in various applications like Image Classifier, Image Recognition and Processing of medical images. Deep learning methods are widely used in every field and have been used in the research of Steganography. It is a sub field of Machine Learning. It can solve complex problem due to features that can extract automatically. Deep Learning techniques used for Image Steganography can be broadly divided into two categories- Convolutional Neural Network (CNN) based and General Adversarial Network(GAN) based methods. CNN based method specifically designed for Image Recognition and using certain Architectures. It can hold all the information contained in the image and can produce a more accurate classification of objects. It has two main blocks, there are Classification and Feature Extraction. GAN Model is capable of synthesizing realistic images. Current Steganography method using GAN have covered the three traditional strategies.(i.e)modification methods, Selection and Synthesis methods. From the analysis of three methods, it is observed that text is most commonly used secret information and GAN based methods are the preferred mode for secret communication for text hiding.