**Project Synopsis**

**Tentative Title of Project: StegMed**

**Project No-: 43**

**Team Details-**

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**Problem Formulation:** Many times, data transmission(image, audio, video etc.) from various sources are frequently carried out through the internet for different applications, such as personal photography, defense sector secret data circulation, confidential business archives, documentation of various data, medical images, patient details are embedded within image proving protection to information, and army imaging database. As these images contain extremely important and

confidential data, they should be highly protected from piracy or leakage during transmissions.

So, there is a need for a secure image transmission technique. With this in context, we define our problem statement as “To develop a model which can secure the medical images by Steganography using Deep Neural Network”.

**Key words-** Steganography, Cryptography, Data Encryption, Watermarking

**Objectives/Aim-** Develop a Deep Neural Network model for secured Medical Image Steganography. Achieve Image Steganography where the PSNR loss will be less than 20%. Compare the proposed model with recently reported kinds of literature.

**Description (not more than 100 words)-** In the era of technology huge amount of data is manipulated over the internet. This data may consist of personal information of people, the Government’s data, and the huge amount of social media records that need to be secured properly. In the era of confidential communication such as military and other Government sector areas, the data should be more secure against an attacker who steals the information. Nowadays the data is very huge and the medium needs to be more secure in communication. So many hackers found their way into economics for stealing information. As daily we are getting news of hackers hacking the data continuously for illegal use, it has become a need now to protect this data using some advanced technology where only desired user will be beneficiary of the content. So we need a medium to communicate medical information in a secure way.

**Technical Details:** StegMed takes the help of advanced Steganography and Cryptography to create a secure way of hiding data within another file so that any unauthorized user may not be able to access it. Also with the use of watermarking, StegMed will also be able to help in authentication of Medical Reports.

**Details of Methodology/ Approach of Development-** Waterfall Model

**Tools/ Languages to be used –** Python, Tensorflow, Keras, Jupyter Notebook, MATLAB

**Synopsis Status**

**Faculty Remark**

**Approved / Approved with Changes / Not Approved**

**Signature - Date:-**