

## **ABSTRACT**

In the world of digital communication, information sharing is rapidly increasing. The data we send are vulnerable to different active and passive attacks. So secure data transmission and communication is very important. Cryptography performs an essential role to secure the data transferred over a network and provides solution to different attacks. For securing the data during transmission, many different encryption techniques from basic methods to very complex calculations have been developed. However, still along with its difficulty, the cryptographic algorithms are prone to various attacks. For secure encryption and communication, we have used genetic algorithm and back propagation algorithm. For creating secure key or encrypting the message, the data to be transferred are encrypted by the process of crossover and mutation and the cipher text are generated by the combination of private key and encrypted data. The cipher text is then transferred to the destination. The private key is separated from the received cipher in the destination and is decrypted back to original form by using back propagation algorithm.