

ABSTRACT

It is common knowledge that cataracts are the main cause of blindness in the world. People who understand cataracts feel that their vision becomes cloudy because there is a buildup of protein in the lens of the eye. Because cataracts require serious treatment, a patient who has cataracts is usually ordered to have regular check-ups. Then the android application "FCS (Find Cataract system)" was designed.

In this final project, an android-based cataract detection system is designed for people of all ages to easily perform regular check-ups. This android application is designed using the CNN (Convolutional Neural Network) method in the classification process. In addition, this application is ensured to be safe because the author implements the best encryption model of AES and DES encryption.

The best security level test results according to Avalanche effect for the Find Cataract System application is AES 25 with an average Avalanche effect of 51.5% which is in the best category for Avalanche effect. The results of the Quality of Service test from the Find Cataract System application were obtained with an average delay of 7.17s, throughput of 316.4 kbps and packet loss of 0%. And enter into good QOS according to ITU-TG 1010.

Keywords: *Cataract, Advanced Encryption Standard, Data Encryption Standard, Android.*