ABSTRACT

Infrared technology is a technology widely used by the public at this time generally in the military and civilian fields. For example the object recognition with the purpose of security to the interests of the law. Infrared technology that is implemented for security is Closed Circuit Television (CCTV) camera. With this CCTV camera, all the crimes that caught on camera are used for legal purposes. The evidence used is the infrared images of human faces because biometric on every human face is different. As is known that the results of images from infrared cameras have poor quality, ranging from contrast, detail, lighting and so on, but the advantages of infrared cameras that can see in light conditions even less dark.

Referring to the result of the infrared image that has poor quality, therefore it is necessary to enhance the image quality. Many methods of image quality enhancement, one of which used in this research are Retinex SSR (Single-scale Retinex) and MSR (Multi-scale Retinex). Facial recognition method used is Linear Discriminant Analysis (LDA) method.

Tests were performed to compare Linear Discriminant Analysis (LDA) face recognition results with retinex and without using retinex. In the tests that have been done, the recognition of the face with very dark conditions can still be recognized compared to face recognition without retinex.

Keywords: *infrared image, image quality enhancement, face recognition, retinex, linear discriminant analysis*