ABSTRACT

Today, face recognition is a technology that has been widely applied to various purposes, especially related to the image. Example of the use of face recognition include face recognition for identity cards and driving license. In addition, it is also widely used in a security system that can recognize the face of someone.

In security system, surveillance using Closed Circuit Television (CCTV) camera generally use infrared camera as they can capture image even with dark location lighting conditions. Generally, the image quality coming from CCTV cameras is poor. This can be caused by a poor image retrieval process, such as inadequate shooting distance and minimal lighting conditions so the image quality is still not optimal. One solution that can be done to overcome the lack of image quality by using the method of image enhancement.

In this research, image quality improvement method used is SSR (Single Scale Retinex) and MSR (Multi Scale Retinex) with face recognition method of principal component analysis (PCA). The tests performed compared the face recognition without going through retinex process and face recognition with retinex. The use of retinex algorithm in the dim test data is the most effective condition compared to bright or very dark conditions.

Keywords: Image, face recognition, infrared, image enhancement, retinex.