

## ABSTRACT

*Facial recognition is one of the possible biometric techniques computer or authentication machine to recognize human faces. Face recognition technology can be applied in everyday life to facilitate human activities, but not in a system in various fields that uses this technology yet, one of them is in the field of special education in the library as a support for public literacy. This biometric technology is expected to be able to make a system that was originally only manual become automated, faster, more efficient, and effective in decreasing the percentage of human errors committed.*

*From these considerations, the face recognition system designed as a data collection system and access to enter the regional library. The system able to move the manual data collection system (writing name, id number, time, signature) and manual calculation (total visitors by the manager on the same day) carried out by visitors and library managers. This system uses Viola-Jones and Local Binary Pattern Histogram (LBPH) algorithm for Face detection and Recognition based on Open Computer Vision (OpenCV).*

*The image processing system created in this Final Project can detect and recognize faces based on several parameters ; faces expression, the distance of the face to the camera and the number of sample images placed. The optimal result of the system is the number of samples has to more than 10 and a distance of the face with the camera between 30 cm to 100 cm also with a normal face conditions (not wearing mask, black glasses, etc). The average accuracy of the system with the optimal parameters is 81.11%.*

**Key Words** : *Picture, Library, Face Recognition, face detection, Computer Vision, LBPH, Viola-Jones*