ABSTRACT

*This research aims to conducts a study and designs a system to classify the severity of acne into three classes, namely: level 0 is acne with mild severity, level 1 is acne with moderate severity, level 2 is acne with severe severity. The system will be built using a Convolutional Neural Network (*CNN*) with the* GoogleNet *architecture. The data used consists of 1457 jpg format images which are divided into four classes. The data will be selected into three classes and averaged to produce the model with the best performance. This final project evaluates the performance of the* CNN *model that has been designed using the parameters of accuracy, precision, recall, f-1 score, and loss function. The results obtained using the SGD optimizer with an accuracy of 80%, with a precision value of 79%, a recall value of 79%, an f-1 score of 79%, and a loss function value of 27%.*

Keywords: *Acne, Convolutional Neural Network* (CNN), GoogleNet