ABSTRACT

One of the problems faced by new parents with infants is the difficulty of understanding the meaning of their infant's cry. The classification of infant cry has been studied since 1960 by using human assistance (experienced child nurse) to identify the 'signal' that causes baby crying. In a 2006 study by Dunstan, she found patterns of sound reflexes in infants that can be interpreted into 5 causes of crying, namely the need to burp, discomfort, hunger, belly pain, and tired. With the development of artificial intelligence technology in the form of audio classification, this can be a solution to the problem of new parents who do not understand the meaning of their infant's cry.

For this reason, in this final project the author designed an infant cry classification system using machine learning with MFCC (Mel-Frequency Cepstral Coefficients) as the feature extractor and ANN (Artificial Neural Network) as the classifier. The creation and testing of this system uses audio files from a previous research dataset containing the audios of infant's cry. With the model that has been created using n_mfcc 50, 1 hidden layer with a density of 300, the resulting validation accuracy for training is 65% and the F1 Score for testing is 49%.

Keywords: Infant Cry Classification System, Dunstan Baby Language, Machine Learning, Artificial Neural Network, Mel Frequency Cepstral Coefficients.