ABSTRACT

Assets are items or entities that have value or can generate value for an organization. such as machines or components on machines. For companies that have a machine with one of its components is a knife, it is necessary to pay attention to the condition of the knife. Downtime can be caused by cutting failures caused by worn or damaged knives. The condition of the blade on a running machine is also difficult to predict directly, but by using machine learning the condition of the blade can be predicted based on data obtained from the machine. Machine learning has many branches and algorithms, to find out which algorithm is suitable for the dataset of knife components, this study will compare several machine learning algorithms that are commonly used to perform data classification and prediction activities. The method used in this research is CRISP-DM. The machine learning algorithms used are Support Vector Machines and Logistic Regression, and deep learning using Feedforward Neural Network and Recurrent Neural Network. The results obtained from the comparison of several algorithms are the Logistic Regression model has the highest accuracy and validation score of 98.9%. *Model evaluation is measured using Confusion Matrix, and ROC curve.*

Keywords—machine learning, deep learning, neural network, machine, blade