ABSTRACT

Air pollution is the entry or inclusion of substances, energy and or other components into the air by human activities so that the air quality drops to a certain level that causes or affects human health. Air pollution can be caused by natural sources or from human activities, such as factory activities to motorized vehicle activities. The Air Pollution Standard Index (ISPU) is a number that does not have units that describes the condition of ambient air quality at a certain location and time issued by the ministry of environment and forestry. This ISPU determination considers the level of air quality on the health of humans, animals, plants, buildings and aesthetic value. The Air Pollution Standard Index (ISPU) is determined based on 5 pollutants, namely Carbon Monoxide (CO), Sulfur Dioxide (SO2), Nitrogen Dioxide (NO2), Surface Ozone (O3) and Dust Particles (PM10). The Naïve Bayes algorithm is a classification method using probability and statistical methods proposed by British scientist Thomas Bayes. The Naïve Bayes algorithm predicts future opportunities based on previous experience, so it is known as Bayes' Theorem. The K-Nearest Neighbor (KKN) algorithm is a classification method for a set of data based on learning data that has been previously classified.

This final project has the goal of making comparisons between several existing algorithms in machine learning in comparing accuracy and classifying or grouping air based on its quality. Some of the algorithms that have been chosen are K-Nearest Neighbor and Naive Bayes. These two algorithms are often used for classification and regression testing, therefore the author has the idea to compare the two algorithms but only at the limit of classification.

In this final project, the creation process has been presented using Android as a viewer of the analysis results from the two methods above. The first step starts with the initial display of the application so you can choose each category between classification with KNN or Naïve Bayes. After selecting, the next step will be to switch to displaying the results of the air quality analysis using KNN and Naïve Bayes.

Keyword: *K-Nearest Neighbor,* KNN*, Naïve Bayes, Machine Learning.*