ABSTRAK

Air, often referred to as oxygen, is one of the essential needs for living beings. However, with the rapid industrialization, air pollution has spread widely from urban to rural areas. Hence, data regarding air quality becomes crucial in determining the level of air health in the environment. The quality of air can be measured using the Air Pollution Standard Index (ISPU), which gauges the concentration level of air pollutants. There are five parameters of air pollution utilized for monitoring, namely carbon monoxide (CO), surface ozone (O3), particulate matter (PM), nitrogen dioxide (NO2), and sulfur dioxide (SO2).

By employing the Decision Tree method, the collected data will be tested to yield the classification results of the Air Quality Index (AQI). The outcomes of this research will be presented through a mobile application designed for use on smartphones. The selection of an application as a means of information dissemination aims to provide practical and comprehensive education to the community. Thus, this application is anticipated to be an effective tool in enhancing public awareness regarding air quality and its impact on health.

During testing, it was discovered that utilizing the entropy Criterion with a Max Depth of 7 and a Test Size of 10/90 produced the best results for the Decision Tree algorithm. The testing results demonstrate a precision of 0.92, a recall of 0.91, an F1-Score of 0.95, and an accuracy of 0.91%. These accuracy results will be interpreted as indicators of air health through the mobile application.

Keywords: Decision tree Method, Air Quality Index, Classification, ISPU, Apps, Particulate matter.