ABSTRACT

As time goes by technology in electric vehicles is developing rapidly. However, there is one obstacle, namely the health of the electric vehicle battery. In this final assignment book, we develop a prediction system for electric vehicle batteries to detect the health of the electric vehicle battery and can be accessed easily by users via the website.

The process for predicting the health of electric vehicle batteries uses machine learning methods. Data from electric vehicle battery cells is taken by charge and discharge, then voltage, tension, temperature and time data are collected and then trained by machine learning to produce health predictions for the electric vehicle battery.

This final assignment is to be able to predict the health of electric vehicle batteries and display it on a website that can be easily accessed by electric vehicle users. The accuracy value of the model used to predict the State of Health (SOH) on type 18650 battery is shown through various error metrics, namely Mean Absolute Error (MAE), Mean Squared Error (MSE), and R-squared (R^2). SVR shows the best performance with very high prediction accuracy, followed by Decision Tree and LSTM. MAE is 0.0221, MSE is 0.0012, R^2 Score is 0.99999.

Keywords: *Electric Vehicles, Machine Learning, Battery.*