

ABSTRACT

With population growth in Indonesia making the development of traffic congested, various ways have been made to overcome traffic congestion branches, one of which is using an Advanced Traffic Management System (ATMS) which is a development of the Intelligent Transportation System (ITS) and using the K algorithm. -Nearest Neighbor (k-NN) is one of the algorithms that uses methods to classify objects based on learning data that is the closest distance to the object. Overcoming traffic congestion is a problem that must be on especially at certain hours. Therefore, to overcome this, it is necessary to have traffic lights so that the vehicle can drive in an orderly manner. To simulate it can use one simulation software, namely SUMO (Simulation of Urban Mobility), and to carry out the process of training and testing data using the Orange Data Mining software. SUMO is a software developed to simulate traffic models. In using simulation software to simulate traffic density at the intersection, it is hoped that it can visualize the state of the traffic intersection that can decompose the density. To avoid oversampling, the proportion of data used in the training data is 60% and the test data is 40%, so that a precision result is 0.722.

Keywords : *Advanced Traffic Management System, Intelligent Transportation System, k-Nearest Neighbor, k-NN, SUMO*