

LITERATURE SURVEY

9.MACHINE LEARNING IN VEHICLE CONTROLLER AREA NETWORK (2021)

INTRODUCTION:

Communication between the nodes in a vehicle is performed using many protocols. The most common of these is known as the Controller Area Network (CAN). The functionality of the CAN protocol is based on sending messages from one node to all others throughout a bus. The most existing work focuses on the physical aspects without taking into consideration the data itself. Machine Learning (ML) Tools, especially classification techniques, have been widely used to address similar problems. The paper provides a comparative study of the most common ML techniques. The results show that the techniques under consideration in this paper outperform other techniques that have been used previously.

Recently, a considerable amount of research has focused on vehicle communication technology, such as smart vehicles, Vehicular ad hoc Networks (VANET) and Intelligent Transportation Systems (ITS). Vehicles are necessary for daily life, and they are becoming more electronically equipped and are no longer simple mechanical machines. Electronic Control Units (ECUs) are used in vehicles to monitor and control different components.

ADVANTAGES:

The best performance is given with impersonation attacks due to the support included in the dataset.

The first comparison is based on attack type, and the second is an overall comparison with well-known methods.

The process of labelling has been performed by executing preprocessing according to the data set description given.

DISADVANTAGES:

The result of experimental study can only be performed with data sets.

The values are underlined and the out performance of RF Classified can only be suitable in context of intrusion detection for CAN based in vehicle networks.

The explored research space yields results comparable to the neural network techniques.

CORRESPONDING AUTHOR :

Abdulatif Alabdulat

