# MLP Model Approach for Driver Fault Identification

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The issue of the traffic accident has gain attention of the globe which has been a major challenge for the sustainable development of transportation and traffic. Crashes are events which occurred by involving different components: Driver, road, environment. Driver identification is directly connected to taking advanced actions on the road accident. Prevention of the road accident is the primary concern and necessary legal actions must be taken for the responsible party of the accident. In order to accurately predict the driver fault regarding an accident, this study aims to identify whether the driver is fault for the accident or not, by using a Multilayer Perceptron (MLP) model. The proposed model accurately predicts the driver fault while ensuring the accuracy of the decision. Proposed Multilayer perceptron model has achieved an accuracy of 97.77% with the accident data. To compare the results of the model, Decision Tree, Linear classifier and DNN classifier has used. Comparative results revealed that the most accurate model as the Multilayer perceptron approach. Necessary sensitivity analysis regarding the MLP was performed to find the best MLP model. Results revealed that by using 500 epochs with RMSprop accuracy was increased. T – Test was performed with 0.05 accuracy level for the selected methods and MLP method outperformed the other techniques. The research will provide the information needed to guide the relevant decision-makers in adopting suitable measures to prevent and to reduce the accident rate.

*Keywords: Multilayer Perceptron (MLP); DNN classifier; Decision tree; Linear classifier.*

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