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A Framework for Analysis of Road Accident

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Abstract: The road accident data analysis use data processing techniques, focusing on identifying factors that affect for accidents. However, any damage resulting from road accidents. Some of them are internal to the driving force but many are external. For example, adverse weather like fog, rainfall or snowfall causes partial visibility and it may become difficult as well as risky to driver on such roads.

I. INTRODUCTION

The Road accidents data analysis to spot the main factors surrounded a road and traffic accident. There are a lot of Data Mining Algorithms which are available to find out the association between independent variables in a hug data. The most popular and commonly used algorithm is association rule mining. This can be used to detect the significant associations between the data stored in the large database. Predictive and FP growth algorithm are the most common association rule mining methods which are used. The results obtained from these data mining approach can help understand the most significant factor or often repeating patterns. The generated patterns are identifies the most dangerous roads in terms of road accidents and necessary measures can be taken to avoid accidents in those roads. Data analysis has been widely used in research with literature there of employing different graphical representations and statistical analyses, to perform preliminary investigation on datasets. Thus, some relationship between data may remain hidden. Although, researches and segmentation of the data to reduce this heterogeneity using some measures an expert knowledge. The order to ideal with the problem, in computational science, able to adopt data mining model for different scenario. In any vehicle accidents, it

II. METHODOLOGY

Models are created using accident data records will help to understand the characteristics of many features like drivers behavior, roadway conditions, light condition, climate conditions so on. It will helpful for the user to perform the protection measures which is useful to avoid accidents. It can be illustrated how method helped directed graphs, by comparing two scenarios helped out of sample forecasts. The model is performed to detect statistically significant factors which can be able to predict the chances of crashes and injury that may be used to perform a risk factor and reduce it.

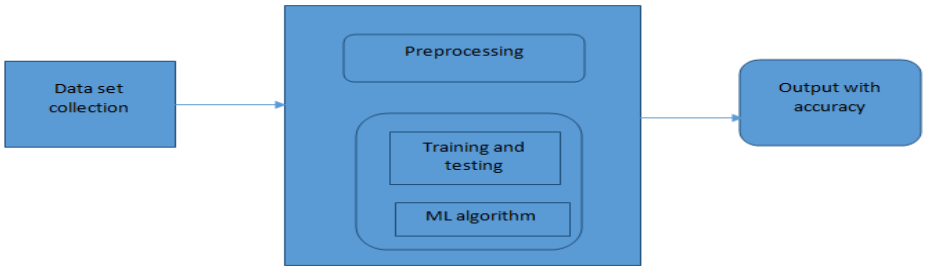

Fig1: System Architecture

Data set collection: A dataset is a collection of data, usually presented in tabular form.
Preprocessing: The technique of preparing the raw data to make it suitable for a building and training machine models.
Training and Testing: Train/Test is a method to measure the accuracy of our model. We can split the idea set into two **Sets**: a training set and a testing set.80% for training, and 20% for testing.
Machine Learning Algorithm: It is the method by which the Al system conducts its task, generally predicting output values from given input data.
Output Accuracy: Accuracy is a metric for evaluating classification models. That is number of correct prediction to total number of prediction.

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2.1 Sequence Flow

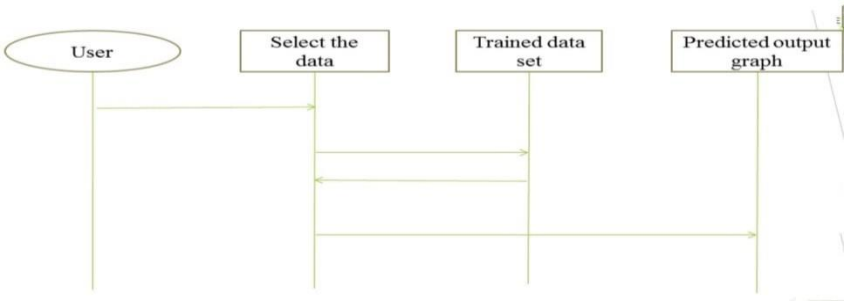

Fig2: Sequence Diagram

A sequence diagram shows entity reaction arranged in time sequence. the sequence diagram are sometimes known as event diagrams or event scenarios, in order which they occur .We can split the data set into two sets: a training set and a testing set. 80% for training, and 20% for testing. Predicted output in form graph.

III. RESULT AND ANALYSIS

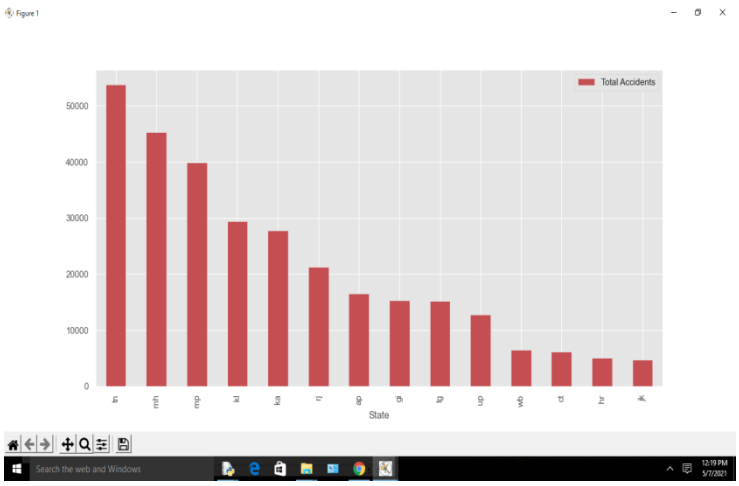

Fig1: All state fog killed cases graph

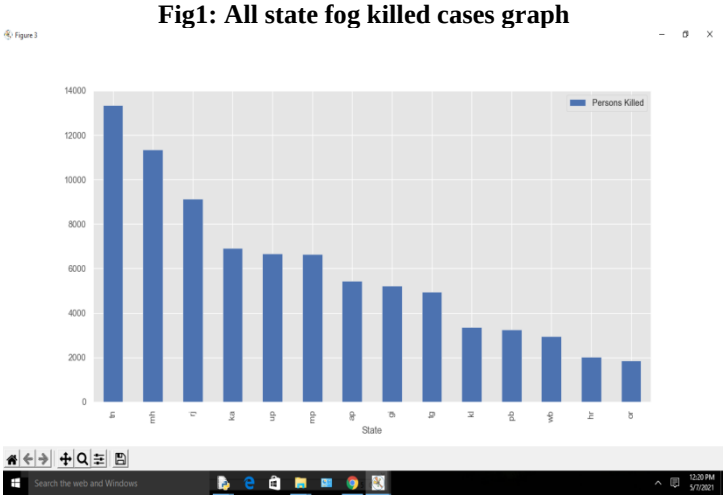

Fig2: All state fog killed cases graph

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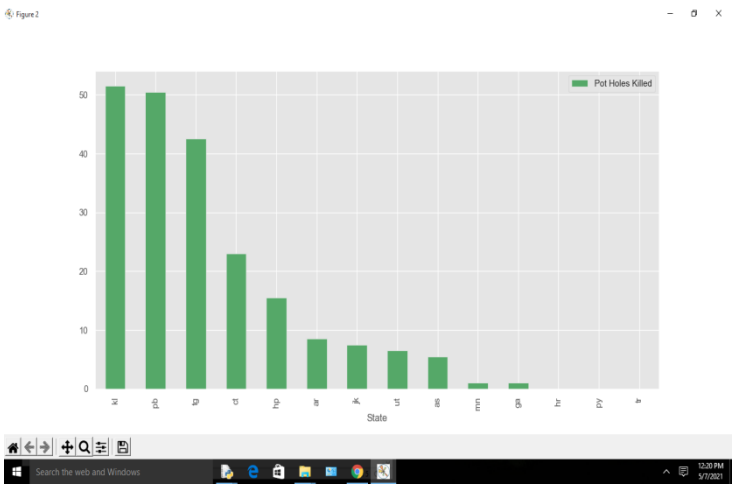

Fig3: All state pot holes killed cases graph

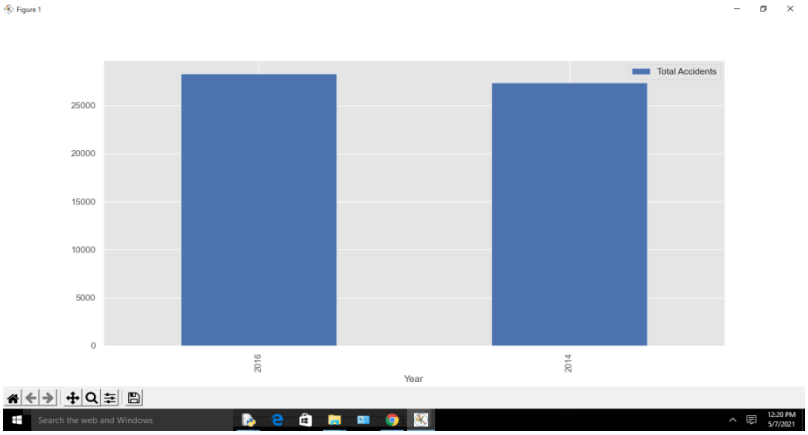

Fig4: Total accidents vs persons killed for selected state and year

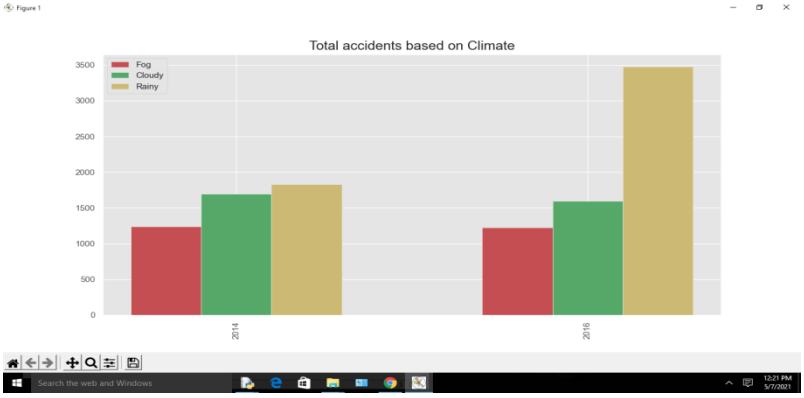

Fig5: Total accidents based on climate

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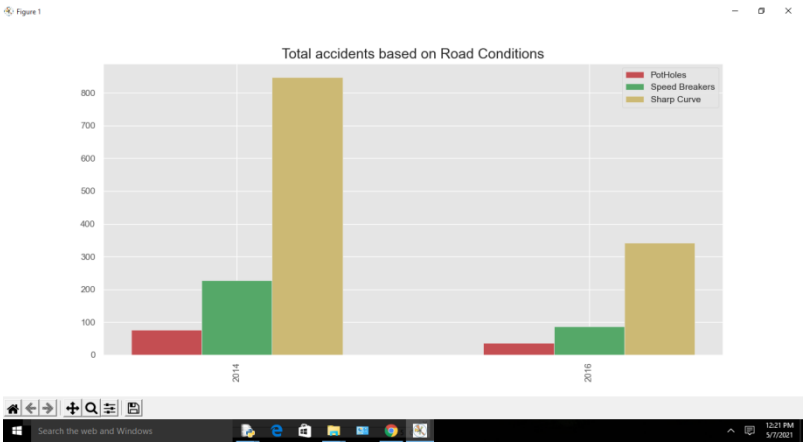

Fig6: Total accidents based on road conditions

IV. CONCLUSION

In this project, the technique of logistic regression with a large set of accidents data to identify the reasons of road accidents were used. Literature survey is done for the identification of factors involved in the accident that occur and helps the Government to adapt the traffic safety policies with different types of accidents and situations.

In this project we have collected the data set from the UCI repository and tried to choose various number of attributes to provide a lot of valuable information for the government to provide better safety policies.

V. REFERENCES

[1]. Castro-Num, M.; Arevalo-Quijada, M.T. Assessing urban road safety through multidimentional indexes: Application of multicriteria decision making analysis to rank the Spanish provinces. Tranp. Policy 2018, 68, 118-129. [CrossRef]

[2]. Marshall, W.E.; Ferenchak, N.N. Assessing equity and urban/rural road safety disparities in the US. J. Urban 2017, 10, 422-441. [CrossRef]

[3]. Yuan, J.; Lin, H. An empirical study of commuting characteristics in rural areas. Procd. Soc. Behv. 2013, 96, 114-122. [CrossRef]

[4]. Abdel-Aty MA, Radwan AE. Modeling traffic accident occurence and involvement. Accid Anal Prev Elsevier. 2000:32.

[5]. Poch M, Mannering F. Negative binomial analysis of intersection-accident frequencies. J Transp Eng. 1996:122.

[6]. Miaou SP. The relationship between truck accidents and geometric design of road sections-poisson versus negative binomial regressions, accident analysis and prevention,vol. 26. Elseveir:1994.

[7]. Miaou SP, Lum H. Modeling vehicle accidents and highway geometric design relationships, accident analysis and prevention, vol. 25. Elsevier; 1993.

[9]. Jones B, Janssen L, Mannering F. Analysis of the frequency and duration of freeway accidents in Seattle, accident analysis and prevention, vol. 23. Elsevier; 1991.

[10]. Joshua SC, Garber NJ. Estimating truck accident rate and involvements using linear and poisson regression models. Transp Plan Technol. 1990:15.

