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To Predict The Time-Location-Relationship Combined Service Recommendation For Taxi Drivers Using Clustering Techniques.

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Abstract: ***Recently, Urban traffic management unaware about traffic situations in various area (Rush area) on time basis that why they travelling empty without passenger and got less profit at the end of the day. We propose a Time-Location-Relationship combined taxi service recommendation model (TLR) to improve taxi drivers' profits, uncover the knowledge of human mobility patterns, and enhance passengers' travel experience. Moreover, TLR model uses Gaussian Process Regression and statistical approaches to acquire passenger volume, mean trip distance and average trip time in functional regions during every period on weekdays and weekends, and allow drivers to pick up more passengers within a short time frame. Finally, we compare our proposed model with Auto Regressive Integrated Moving Average model (ARIMA), Back-Propagation Neural Network model (BPNN), Support Vector Machine model (SVM), and Gradient Boost Decision Tree model (GBDT) by using the real taxi GPS data.***

We propose a density-based spatial-temporal clustering algorithm for geo-located data points, based on an extension of the SNN (Shared Nearest Neighbour) clustering. The proposed algorithm allows the integration of location, time and other semantic attributes in the clustering process. This algorithm can find clusters of different sizes, shapes, and densities in noisy data that will help us to predict rush hours in various area. We evaluate the effectiveness of our algorithm through a case study involving a New York City taxi cab pickup data and Maryland crime data. The experimental results show that the proposed algorithm can discover interesting patterns and useful information from spatial-temporal data. By using this system we can predict that, in which area there is rush ours right now and according to taxi drivers geo-location system will suggest him, nearest traffic area to get more passengers. That will be more helpful to get more passengers and increase profit.

Keywords: LBS (Location Based Service), GPS, Recommendation, spatial temporal clustering , shared Nearest Neighbour clustering.

I. INTRODUCTION

Now a days taxi drivers are unaware about traffic situations in various area (Rush area) on time basis that why they travelling empty without passenger and got less profit at the end of the day. Because of not having information they have to travel empty and got big loss in business. To solve this issue we develop such system which will help them to find nearest rush area on time basis from driver's location. Whenever driver visit to new location he have to start application to get passenger. Application will take driver's geo-location and search for nearest rush places at that time. Then Application will automatically make groups of nearest rush area and show results using clustering. If driver got/ does not got passenger in that area then he has to update into application, this will help for next prediction.

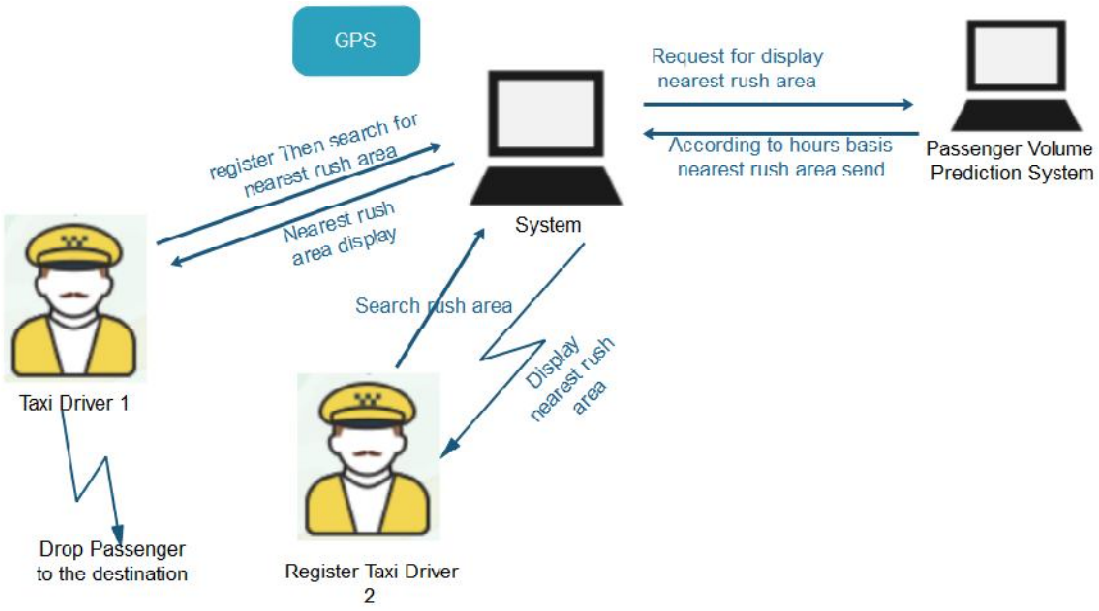
II. ORIGIN OF RESEARCH PROBLEM

Taxi driver not does not get the information about traffic situations in various area (Rush area) on time basis that why they travelling empty without passenger. Because of this problem they got less profit at the end of the day.

III. GOALS AND OBJECTIVES

A. To uncover the knowledge of human mobility patterns, and enhance passengers travel experience.
B. To Give traffic area notification to the taxi driver.
C. To increase employability.
D. To get more passenger.
E. To Increase profit of taxi driver

IV. PROPOSED ARCHITECTURE



V. COMPONENTS

A. LBS(Location Based Service)
B. GPS Recommendation
C. Spatial temporal clustering
D. Shared Nearest Neighbour clustering

VI. RESULT

A. Whenever driver visit to new location he have to start application to get passenger.
B. Application will take drivers geo-location and search for nearest rush places at that time. Then Application will automatically make groups of nearest rush area and show results using clustering.
C. If driver got/ does not got passenger in that area then he has to update into application, this will help for next prediction.

VII. CONCLUSION

Whenever driver visit to new location he have to start application to get passenger. Application will take drivers geo-location and search for nearest rush places at that time. Then Application will automatically make groups of nearest rush area and show results using clustering. If driver got/ does not got passenger in that area then he has to update into application, this will help for next prediction.

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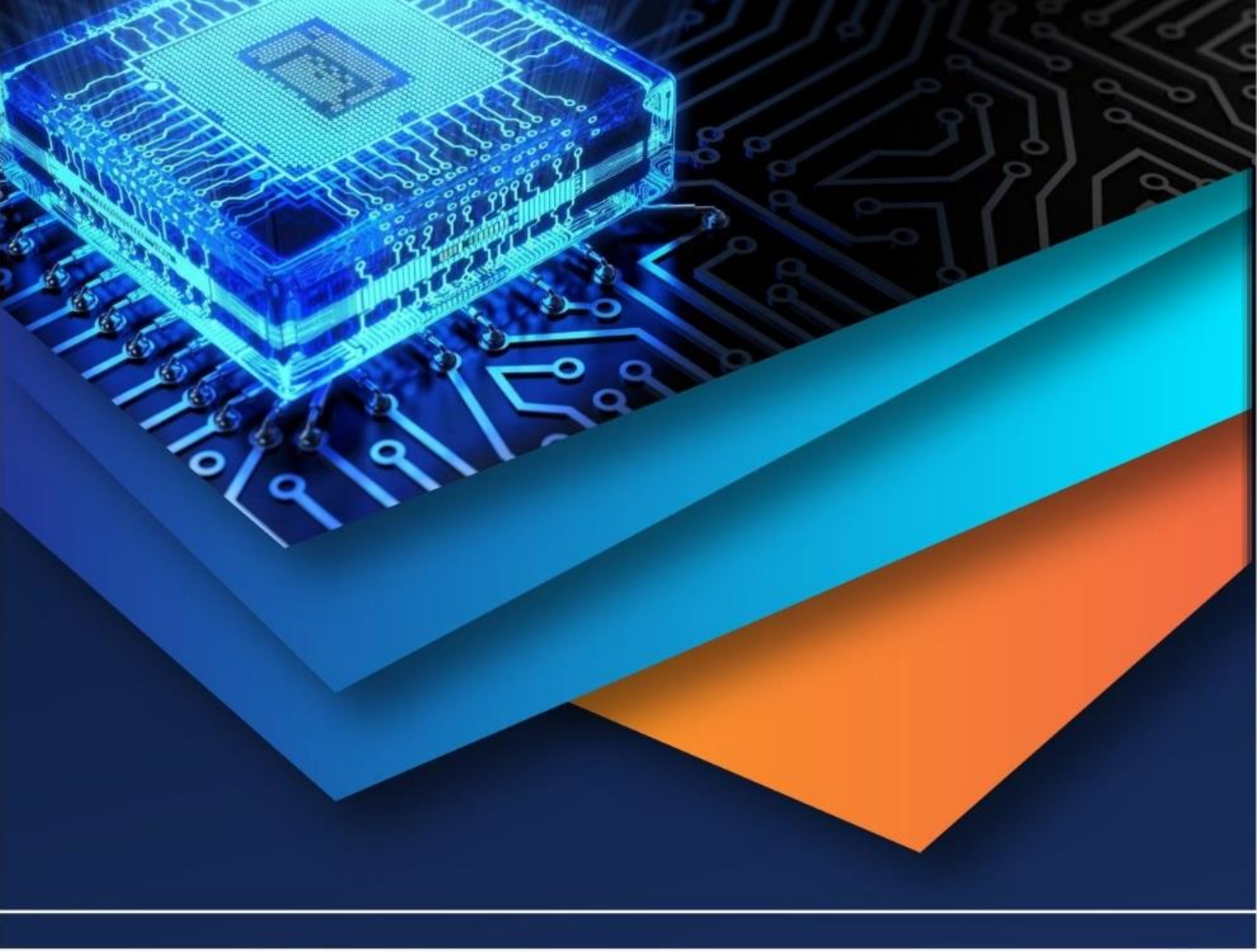

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