

Prediction And Data Analysis For Uber

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Abstract- We are going to use the Django library of Python to analyze the data for Uber cabs to determine the fare that needs to be charged to the customer according to the distance and travel time. Also, data needs to be presented in an eloquent way to make sure that prerequisite amount of cabs are available for the customer during the peak hours to travel in. Moreover, it will help to make the database more rational and can work in a swift manner using the concept of machine learning.

Keywords- Python, Machine Learning, Data analysis, Django library, data manipulation

I. INTRODUCTION

Our projects depicts the information about data analysis of the Uber cabs which further will be sorted on the basis of time of cabs, rush areas also according to the needs of the customer.

The primary perspective of this project is to reduce the waiting time of the customer as well as fares for the cabs. Django library for Python collects the data from the table and further converts it into the table form categorizing the different types of data that need to be sorted.

Moreover, the processing is done efficiently using the concepts of Machine Learning. Also, the concepts of Python will help to run the program quickly.

II. LITERATURE REVIEW

- A. Python is a high level and powerful object oriented programming language. Primary applications of Python include vast number of applications due to the various standard libraries that come along with it and its ability to integrate with other languages and use their features.
- B. Python has been used in Artificial Intelligence tasks. Python is often used for Natural Language processing tasks. Many Linux distributions use installers written in Python. Python has also extensive use in Information Security Industry.
- C. Django is an open-source framework for backend web applications based on Python one of the top web

development languages. Its main goals are simplicity, flexibility, reliability, and scalability also using it the development speed will be faster and cleaner.

- D. Machine learning is an application of AI(Artificial Intelligence) that provides system with ability to automatically learn and improve from experience without being programmed multifarious times. Machine learning aims on the development of computer programs that can access data and use it learn for itself.

III. STUDY FINDINGS

- A. This project has been accomplished with the help of Python, Machine learning, Data Analysis and a library for Python named Django which is used for the Data manipulation.
- B. To begin with, data will be sorted based on different categories then it will be uploaded to the database where it will be processed using several algorithms.
- C. Furthermore, the categorised data is used for the analysis which results in the information based on the time and the availability of the vehicles in a specific area.
- D. Basically, the reason behind scrutinizing the data is that it will be useful to acknowledge the distance of the rides, peak hours from certain areas, purpose of the travel, fares and the number of rides that are available.
- E. Administrator is an entity that will manage entire system. Moreover, administrator will have significant authority to perform several operations regarding the database, security, integration and management.
- F. The minimum requirement for the analysis of the Uber Data present in the raw tabular form is:- 8GB or more LPDDR4 RAM, Intel Core i7 6th GEN or more (Atleast 2 Ghz processor), 2GB or more Graphics Card (Atleast Nvidia GeForce MX250 or AMD Radeon 530), 1TB Hard Disk Drive (NVMe SSD is most preferable for efficiency)

Future Enhancements:-

- A. In future we will add more functionalities to the project making it more efficient and reliable.

- B. The primary issue that needs to be addressed is that the prerequisites to run the program are very high and optimisation is needed in that aspect in order to make it universal so that it can run on various platforms and devices.

IV. LIMITATIONS

- A. To begin with, the requirement to run the code that comprises the concepts of Machine Learning and Python, having good resources is crucially important such as remarkable CPU and GPU.
- B. To continue, data cannot be presented in the graphical form which may lead to not being understood by some individuals.

V. ACKNOWLEDGEMENT

We express our sincere thanks to Prof. Ajaykumar T. Shah Head of Department of Computer Engineering, Alpha College of Engineering and Technology for their Support and guidance for this project and care taken by them in helping us to complete the project work successfully.

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