

## Lab 10 Assignment

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We used to articles as reference for our analysis. The two articles are 1. Cloud Based Smart Parking System Based on Internet of Thing Technologies and 2. Smart Parking Based on Reservation.

We present below the performance analysis of our analysis.

Competitor	My Algorithm
1. In the competitor algorithm they worked on the probability of successful parking and minimizing the user waiting time. Also the results depicts that the proposed reservation based parking policy has the potential to simplify the operations of parking.	1. We used multiple linear regression to better understand the relationship between independent and dependent variable. We then used time series help us to identify the numerous patterns in correlated data. As well as performed the time series analysis to get a better understanding of the impact that our variable had ozone layer. The operation took 3 minutes.
2. Here the drivers have to select the parking lots in surrounding they are at. Therefore it results in the reduction of average driving distance during the peak hours.	2. Loading and cleaning the data. This operations took us just 3 minutes. We ran this operation was run on zeppelin.
3.The algorithm wait time with the competitor algorithm is approximately 20 minutes,	3. We improved our algorithm by running it on zeppelin by binding the interpreter in about four and half minutes.
4. The average waiting time for the user including system time was high.	4.We used the high performance interface hence even merging the data took us only less than 2 min.
5. The results show that the algorithm achieve better performance the system with no parking plan	5.Re used algorithm with performance interface hence even merging the data took the only less than 2 min.

6. Based on the results of the simulation we can conclude that if we only use the distance parameter in planning the parking the network performance will be lower than that of the normal network.	6. We used the ozone layer our dependent variable and vehicle, total space and garage code as the independent variables. This took us 2 min.
7. The time required to do the reserved parking is the and finding the appropriate parking was high	7. The creation of Resilient Distributed Data sets. This created a partitioned collection of the elements that can be operated on our parallel data set. This operation took around 3 min.
8. The proposed network realizes the best performance in the range from 60 to 70 vehicles arriving the each park.	8. We implemented the time series we were able to extract meaningful statistics and characteristic and parts of data what impacts our variable. This took us 3 minutes.
9. The range of the parking has $\alpha=0$ and $\beta=1$ each made the pair realize the best performance	9. Our model had a higher R square parameters.
10. The simulation of the system achieved the optimal solution when most of the vehicle successfully found a free parking space.	10. The multiple regression analysis and time series analysis helped tremendously in identifying any potential outliers and help us in improvised our model.

In conclusion we can state that we improvised the idea and extended it to analyzing the impact on the pollution in turn the environment. Zeppelin helped in improving the performance of the model.

## References

"A Cloud-Based Smart-Parking System Based On Internet-Of-Things Technologies -

IEEE Xplore Document". [ieeexplore.ieee.org](http://ieeexplore.ieee.org). N. p., 2017. Web. 4 Feb. 2017.

Patil, M., & Sakore, R. (2014). Smart parking system based on reservation. International Journal of Scientific Engineering and Research (IJSER), ISSN (Online), 2347-3878.