What is the problem

I need a program to predict the bike rentals in different times of the day

Assumptions

People will rent more bikes when on holiday

People will rent more bikes if the weather is fitting (sunny, not hot, not windy, humidity is low)

People will rent more bikes on hours with traffic jams(after 8 in the morning, before 16 in the afternoon)

People will rent bikes for medium distances (not too far not too close)

If advertisement is high, people will rent more bikes

T: predict the number of bikes rental per time stamp

E: A database of times and the corresponding bikes rental at that time

P: RMLSE measure between predicted and ground truth

Similar Problems

Predict product sales at each time

Why does the problem is needed to be solved

Learning exercise

Being able to predict bikes sales will allow the company to allocate the exact number of given bikes at each time. This will prevent spending money on unused bikes, and the lack of people contentment due to lack of bikes.

The solution is valid for a few months/years, until a major transport change is made in the city.

How would I solve the problem?

I would first examine the data and the assumptions I have made. Then I would clean the data, checking for Nans. Then feature engineering would help me create more features, such as the difference of sales among weeks and days of month. I would research the topic of time analysis more to see relevant ways and methods. Then I would build and try a few models, assessing each of them and creating an ensemble at the end.