Procedure Learning: A Method In Machine Learning

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Abstract

There are number of types of learning in machine learning like supervised and unsupervised [1] to learn about the data but there is no learning yet to learn about the prediction of events in machine learning by means of data. Through this paper. I propose a type of learning that could be used to predict the events in a procedure that happened between two consecutive measurements of data. For example, A car runs between two points 50 times and is takes by different routes. Suppose there are 3 different routes and based on readings of data available, one has to predict the route. This type of learning has applications in medical science like treatment of diseases and also in physics like prediction of motion of charge during an experiment. Further, it has applications in daily life to predict the method or procedure by which a certain event happened.

Procedure learning

Procedure learning could be defined as follows –

Event A --------------- > Event B

Based on measurements at A and B, predict the events that happened that between A and B.
This type of learning is based on the sense that can one predict the events that happened between A and B by means of readings at A and B. This involves making sense of prediction of events based on measurements at A and B

Need of procedure learning

Procedure learning is about learning the procedure or events that happened between two measurements of events. This type of learning has applications ranging from

daily life to all spheres of science. In daily life, there is a need of prediction of events that happened between two given events like places visited during a trip by a car. In science, it has applications in how a disease occurred and based on that information, could we develop a cure.

Procedure learning in practice

An example of procedure learning is as follows. A car travels between two points A and B. There are three routes available between A and B. Number 1 route is of 1 kilometer. Number 2 route is of 2 kilometers and Number 3 route is of 3 kilometers. The car consumes diesel. It consumes 1 litre of diesel for every kilometer travelled. The values of both variables are shown in graphs below.
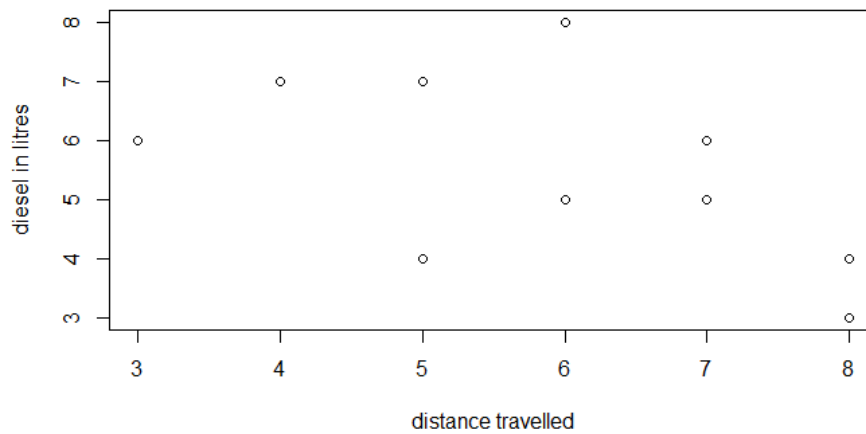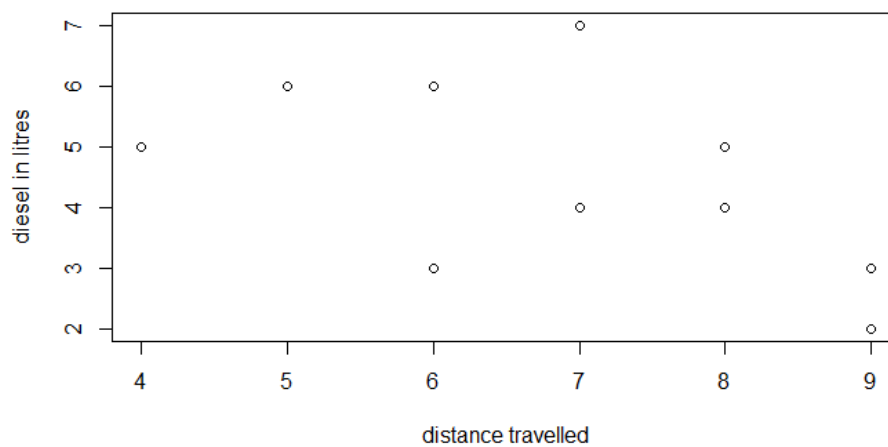
Figure 1: Readings at point A

Figure 2: Readings at point B

It can be seen from the graphs that difference in distance travelled between points A and B is of 1 kilometer. Further, there is consumption of exactly 1 litre of diesel for all readings. Therefore, the car takes route 1 of 1 kilometer for travelling between points A and B. This is from deduction that there is an increase of 1 kilometer and decrease of 1 litre of diesel in all readings, thus route 1 (of 1 kilometer) is the route takes by the car.

Conclusion

It can be seen that procedure learning has very wide applications. It is not just applicable to complex problems arising in daily life like above but also has scientific applications. It could be used to predict the structure of molecules based on their behaviors in reactions. Thus, from future point of view, procedure learning should be incorporated in main stream like unsupervised and supervised learning [1].

References

[1]   Donalek, C. (2011,April). Supervised and unsupervised learning. In *Astronomy Colloquia. USA* (Vol. 27, p. 8).