

Question 8.1

Describe a situation or problem from your job, everyday life, current events, etc., for which a linear regression model would be appropriate. List some (up to 5) predictors that you might use.

Contextual Situation

At work, I make a lot of dashboards that monitor various systems, data ingestions, client activity, and more recently I am working on a dashboard that will provide real-time insights and historical trends of resource utilization in the database warehouse intended to help management with efficient resource allocation, and timely decision-making. Regression analysis can help with:

- Resource allocation
- Cost management
- Operational efficiency
- Health predictions
- Alert threshold setting
- Prioritization/Decision making.

Example:

Predict the 'size' of the database warehouse based on historical data.

❖ Predictors: X

- Cluster Size
- Max number of clusters
- Min number of clusters
- Auto stop minutes.
- Spot instance policy
- Number of clusters
- State, Health, Timestamp

❖ Response: Y

- Size

Summary:

By leveraging regression analysis at work, there's an opportunity to predict the future needs of our database warehouse resources. This can help in making strategic decisions on resource allocation, enhancing our operational efficiency, and managing costs smartly, helping with our system's performance and sustainability.