UTILIZATION OF ALGORITHM DYNAMIC PROGRAM OPTIMIZATION.

Which algorithm is best for used car price prediction?

These both studies motivate this study to expect the **LGBM algorithm** as an optimal algorithm for predicting the price of used cars. ML is the field of science that deals with programming computers that take information known as data and learn from that data.

Which variables are significant in predicting the price of a used car?

Price is highly (positively) correlated with **wheelbase, car length, car width, curb weight, engine size, and horsepower** (notice how all of these variables represent the size/weight/engine power of the car).



**Which car model has the highest resale value?**

Brands with the Best Resale Value

|  |  |  |
| --- | --- | --- |
| **Rank** | **Brand** | **5 Year Resale Value** |
| 1 | **Subaru** | 78.65% |
| 2 | Toyota | 77.61% |
| 3 | Volkswagen | 77.54% |
| 4 | Honda | 77.17% |

Dynamic Program Optimization

How does dynamic programming solve an optimization problem?

**In general, we follow these steps when solving a problem with dynamic programming:**

1. Characterize the structure of an optimal solution: ...
2. Recursively define the value of an optimal solution: ...
3. Compute the value of an optimal solution: ...
4. Construct an optimal solution from the computed information:

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