

Introduction to Data Science

DATA ANALYSIS OF GAS PRICES

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Can we define an added value for the company by knowing more about the gas prices?

We know:

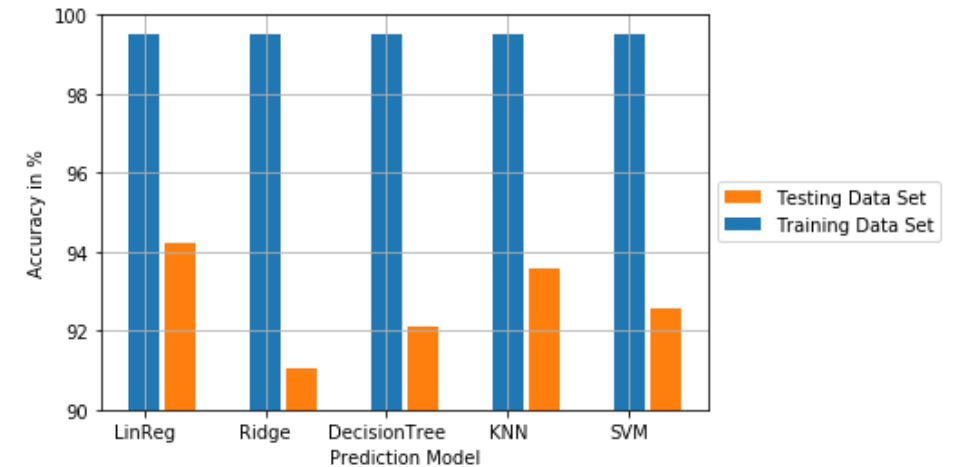
- Fleet: 100 Trucks
- Avg. Mileage: 220 000 Kms.
- Historic Data of Gasoline Prices
- ->We can analyze the data of the historic gasoline prices, and try to predict prices in the future.

Analyzing Data and Modeling Predictions



From the data set that contains the raw gasoline prices we can understand, model, and evaluate behaviors to prepare for decision making

Applying machine learning algorithms, we can make a descriptive analysis and find the best course of action given the situation.



Conclusion

Assuming that a fleet have an average fuel efficiency of 39.5 L /100 km per truck.*

Knowing the historical gas prices we know that the amount of money spent in Fuel is 9,878,000 €

Vehicle acquisition and/or upfitting costs can exceed 10,000 € per vehicle.

If fuel efficiency will continue to decay as the time to life of the vehicles come to it's end.

Prices will continue to go up, it's better to acquire new vehicles, or costs in fuel will continue to rise.

Solution: Keep a proactive fuel management program in place at all times. Practices such as acquiring fuel-efficient technologies, vehicles weight reductions, additional transmission gears; to meet business needs these practices should be continued even when fuel prices are stable.

Otherwise the best course of action is to change the entire fleet while it still has a reasonable value considering it's life, for a new fleet that will be more fuel efficient. (Long term benefit, one time investment)

*<https://www.nrcan.gc.ca/energy/efficiency/transportation/commercial-vehicles/reports/7607>