Linear Regression for Machine Learning

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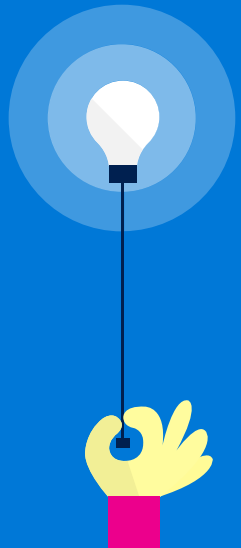
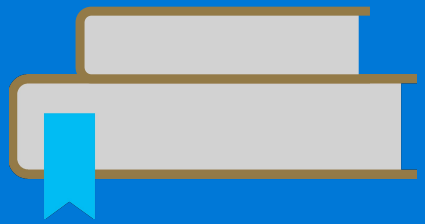
Motivation



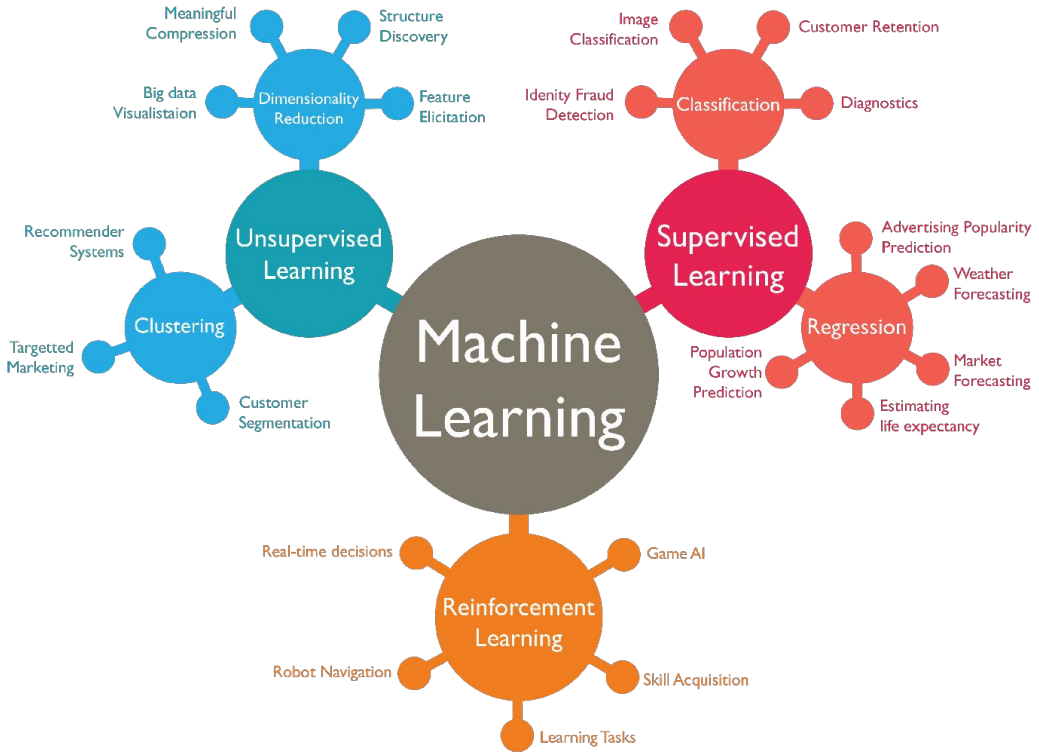
- What is linear regression in machine learning?
- What can I use if for?
- How can I get started with it?

Evaluating Linear Regression Result



Machine learning is a branch of artificial intelligence (AI) focused on building applications that learn from data and improve their accuracy over time without being programmed to do so. [IBM]

Machine Learning



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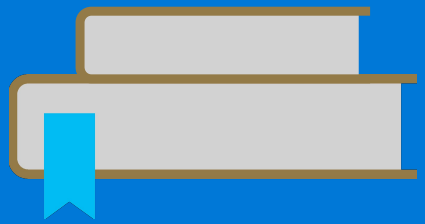
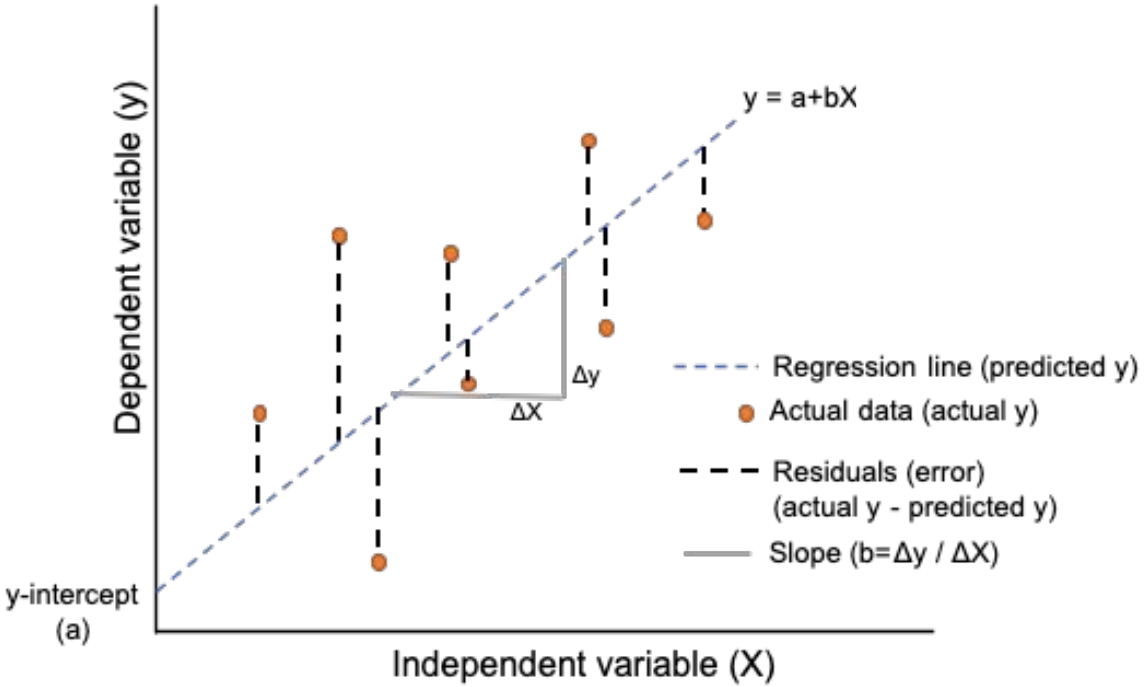
Evaluating Linear Regression Result



Linear regression is a statistical regression model used to perform the task of prediction the dependent variable using the independent variable(s).

Linear Regression Algorithm



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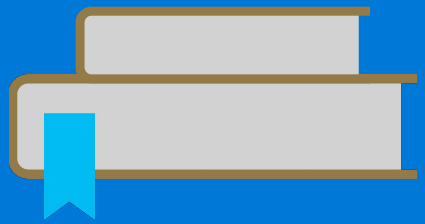
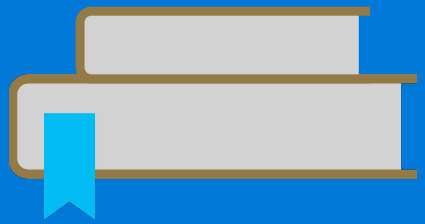
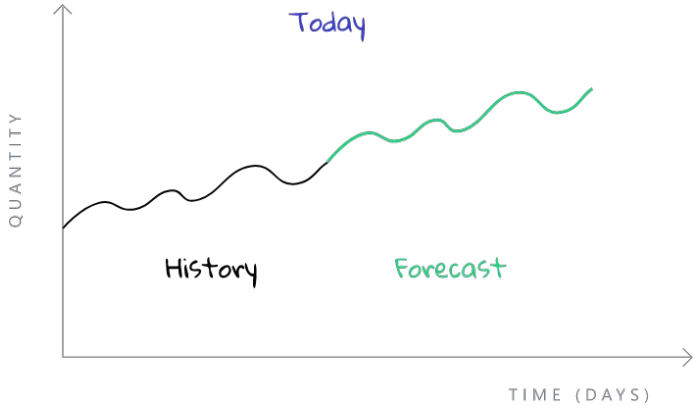
Evaluating Linear Regression Result



- Mean Squared Error (MSE)
- Coefficient of Determination (R^2)

Application of Linear Regression Algorithm

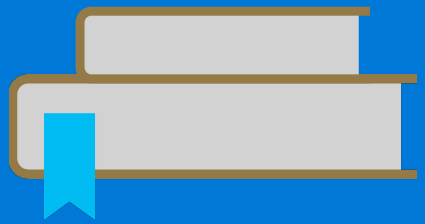




- **Evaluate trends and forecast trends**

https://inventoro.com/files/uploads/2020/08/sales-forecasting-graph.svg

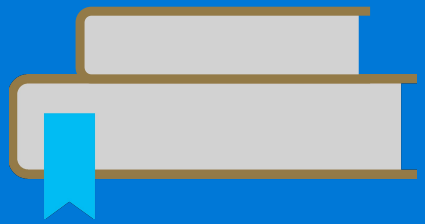
Application of Linear Regression Algorithm



- Evaluate trends and forecast trends
- Understand relationship between dataset
- Analyse impact of price change

https://inventoro.com/files/uploads/2020/08/sales-forecasting-graph.svg

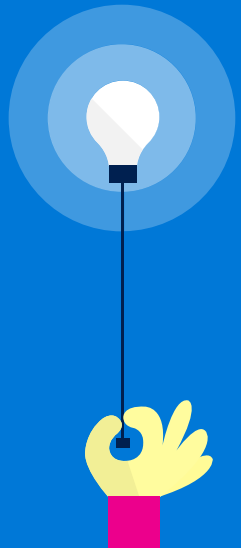
Practical Implementation of Linear Regression



- Python
- Scikit-Learn
- Numpy
- Pandas

Summary of the Talk

- Machine learning and the different types
- Linear regression, its types and applications
- Linear regression algorithm implementation
- Used machine learning to make predictions using Linear regression



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References

- https://www.youtube.com/watch?v=CtKeHnfK5uA&t=136s
- ibm.com/cloud/learn/machine-learning