KARNAVATI UNIVERSITY

Data Science

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Supervised Learning - I

Supervised Learning - 1

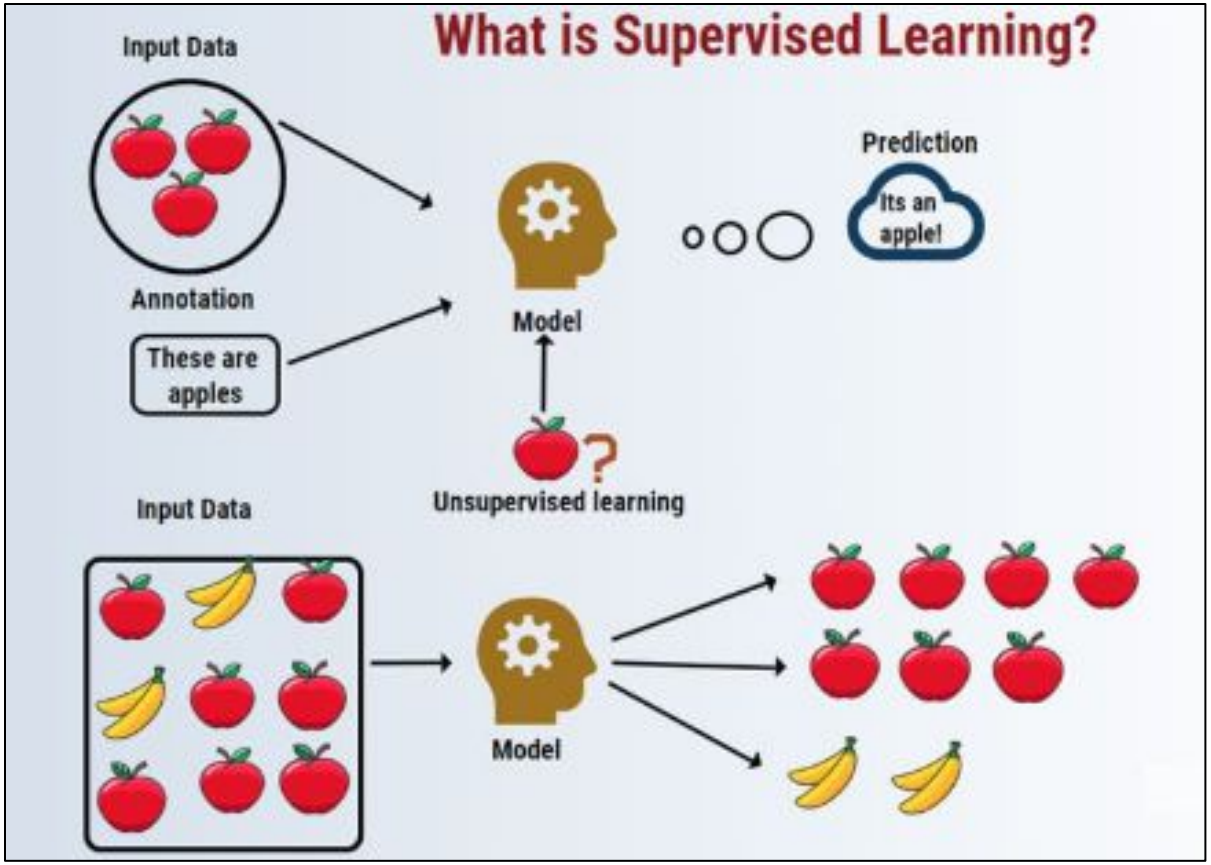
Contents :

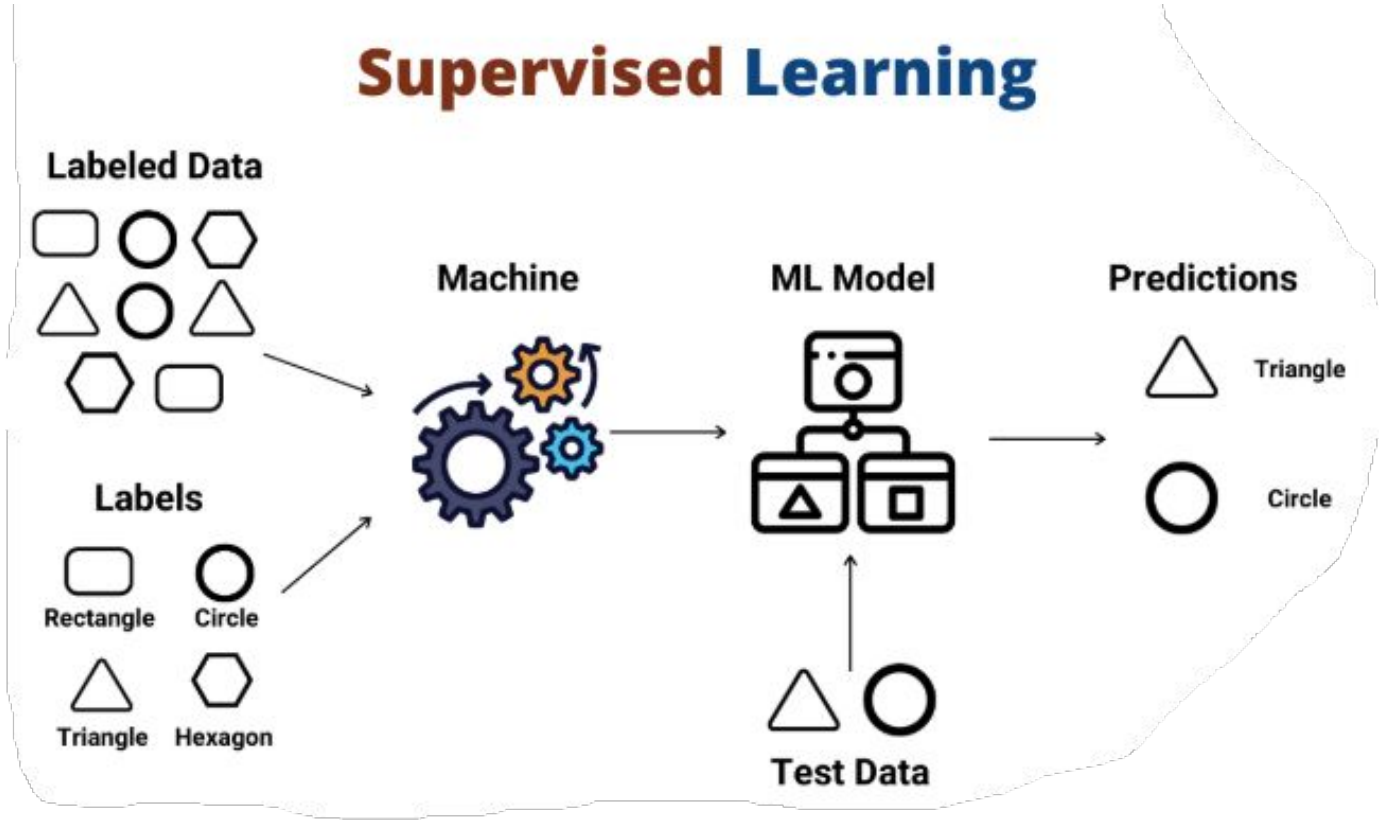
1. Introduction to Supervised Learning (Classification)
2. First Step in Supervised Learning
3. Learning Curves
4. Training, Validation, and Test Sets
5. Learning Models Generalities
6. Metrics for Evaluating the Model
7. Classification Methods: Logistic Regression, SVM, Random Forests, LDA

Supervised Learning:

Supervised learning is a machine learning paradigm where an algorithm learns a function from labeled training data, consisting of input-output pairs, to make predictions about unseen data.

- The goal of supervised learning is for the trained model to accurately predict the output for new, unseen data.
- Supervised learning is commonly used for tasks like classification (predicting a category, e.g., spam or not spam) and regression (predicting a continuous value, e.g., house prices).


What is Supervised Learning?
Input Data
Annotation
These are apples
Model
Prediction
Its an apple!
Unsupervised learning
Input Data
Model


Supervised Learning
Labeled Data
Labels
Rectangle
Circle
Triangle
Hexagon
Machine
ML Model
Test Data
Predictions
Triangle
Circle

Real-Life Examples of Classification

- Gmail → Spam vs. Not Spam
- Netflix → Movie recommendation (genre classification)
- Banking → Loan approval (high risk vs. low risk)
- Medical → Cancer detection (positive/negative)


Thanks!