Machine Learning Type

Predictive / Supervised Learning

> Classification (Pattern recognition)
>
> Regression

Descriptive / Unsupervised Learning

> Knowledge Discovery

Reinforcement Learning

Supervised Learning

Classification

> Function Approximation

Binary classification

Multiclass classification

Multi-label classification (Multiple output model)

Classification Application

Document classification (Email spam filtering)

Image classification

Handwriting recognition

Object detection

Face recognition

Regression

> Aim to predict

Unsupervised learning

Discovering clusters

Discovering latent factors

Discovering graph structure

Matrix completion

Image inpainting

Collaborative filtering

Market basket analysis

Basic concepts

Parametric model

Non-Parametric model

K-nearest neighbors

Curse of dimensionality

Linear Regression

Logistic Regression

Overfitting

Model selection

No free lunch theorem