

Supervised Learning

- **Supervised learning** is tasked with learning a function from labeled training data in order to predict the value of any valid input.
- Common examples of supervised learning include classifying e-mail messages as spam, labeling Web pages according to their genre, and recognizing handwriting.
- Many algorithms are used to create supervised learners, the most common being neural networks, Support Vector Machines (SVMs), and Naive Bayes classifiers.

Unsupervised Learning

- **Unsupervised learning** is tasked with making sense of data without any examples of what is correct or incorrect. It is most commonly used for clustering similar input into logical groups.
- Unsupervised learning can be used to reduce the number of dimensions in a data set in order to focus on only the most useful attributes, or to detect trends.
- Common approaches to unsupervised learning include k-Means, hierarchical clustering, and self-organizing maps.