

SE 544: Introduction to Machine Learning

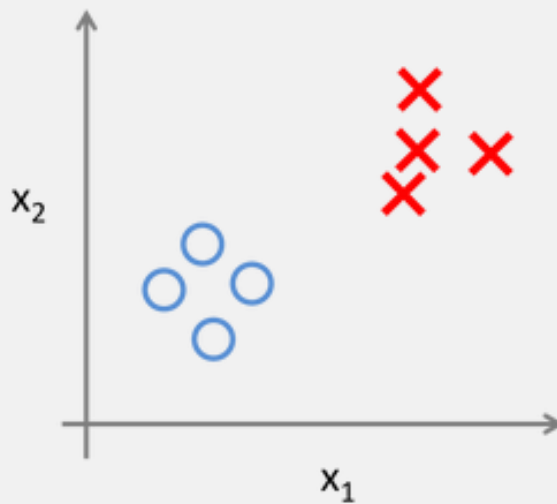
Department of Software Engineering
Daffodil International University



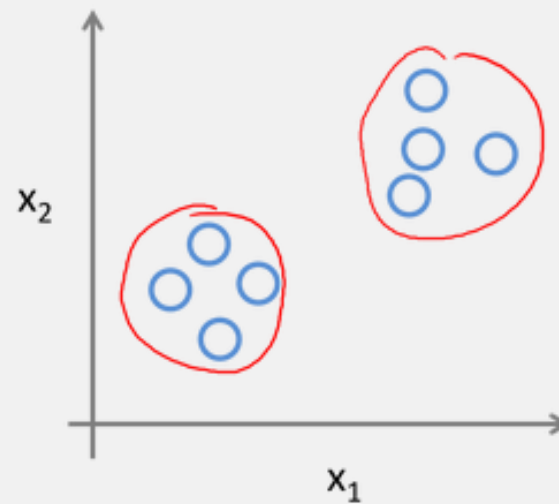
Md. Shohel Arman
Senior Lecturer
Department of Software Engineering



Supervised Learning



Unsupervised Learning



Machine Learning Algorithms

- Supervised learning
- Unsupervised learning

Others

- Reinforcement learning
- Semi-supervised learning

Classical Machine Learning

Task Driven

Supervised Learning

(Pre Categorized Data)

Classification

(Divide the socks by Color)

Eg. Identity
Fraud Detection

Regression

(Divide the Ties by Length)

Eg. Market
Forecasting

Data Driven

Unsupervised Learning

(Unlabelled Data)

Clustering

(Divide by Similarity)

Eg. Targeted
Marketing

Association

(Identify Sequences)

Eg. Customer
Recommendation

Dimensionality Reduction

(Wider Dependencies)

Eg. Big Data
Visualization

Obj: Predications & Predictive Models

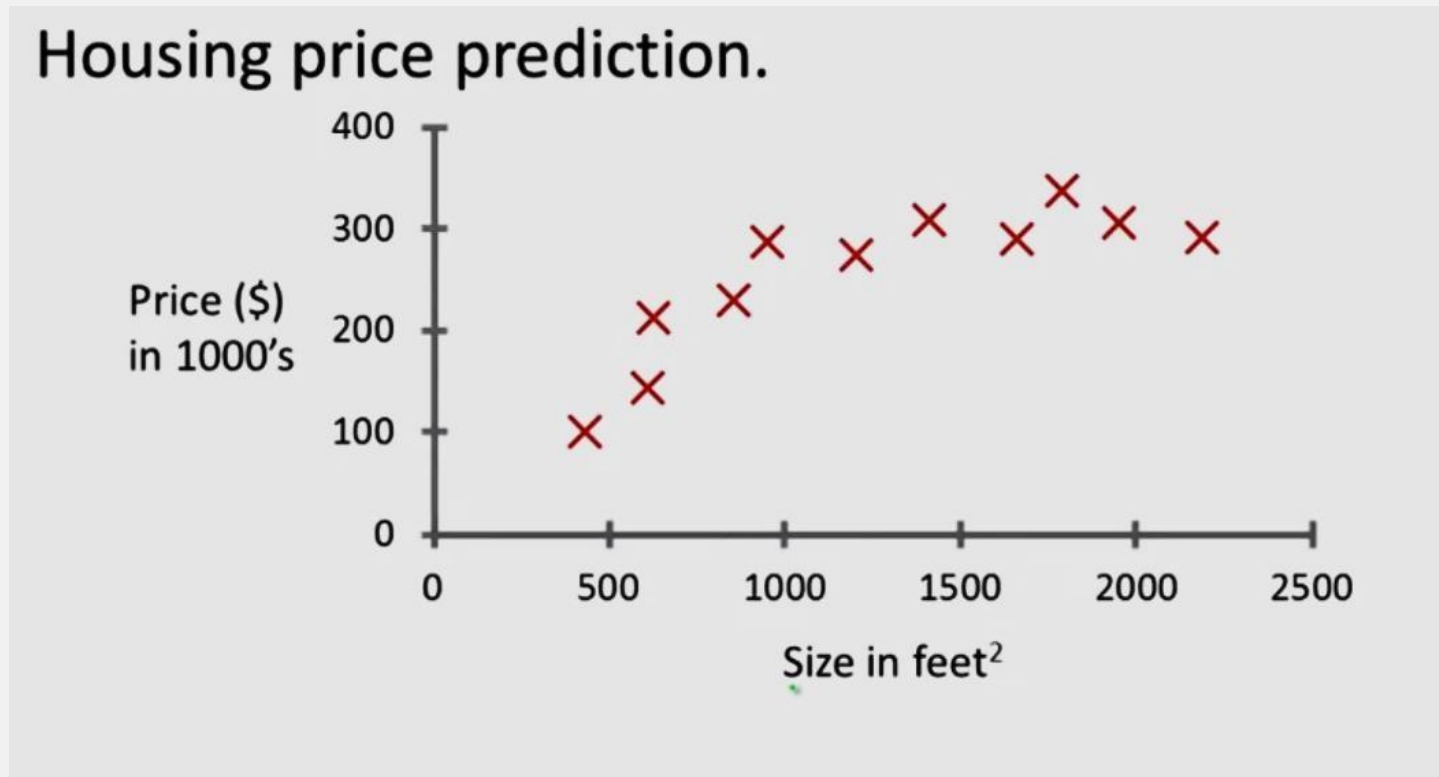
Pattern/ Structure Recognition



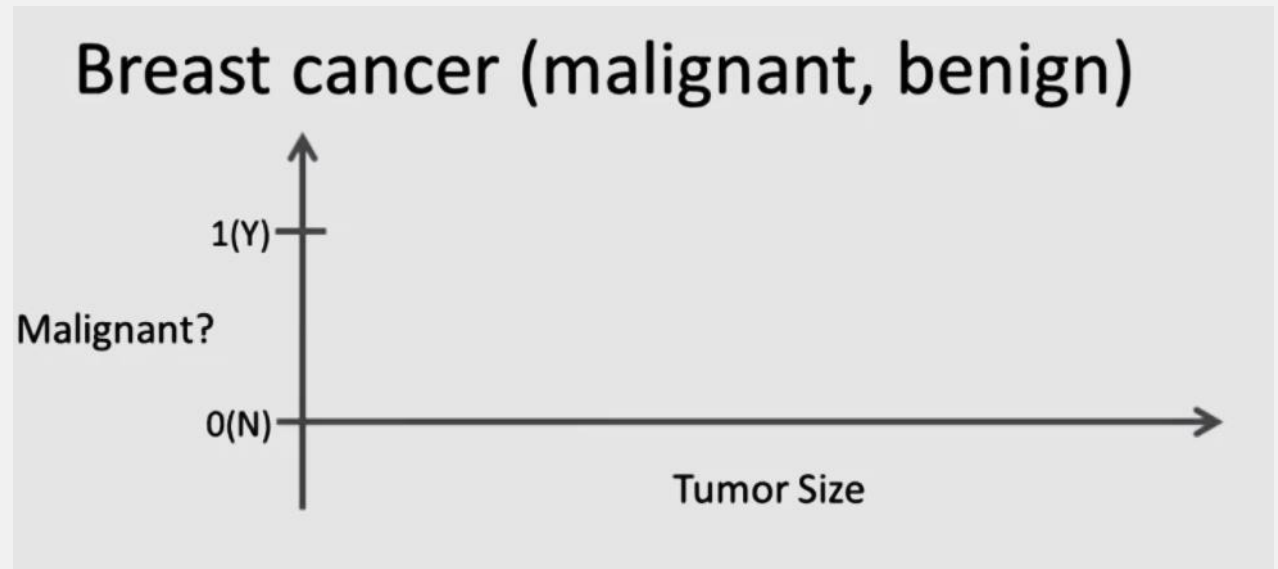
- QA -



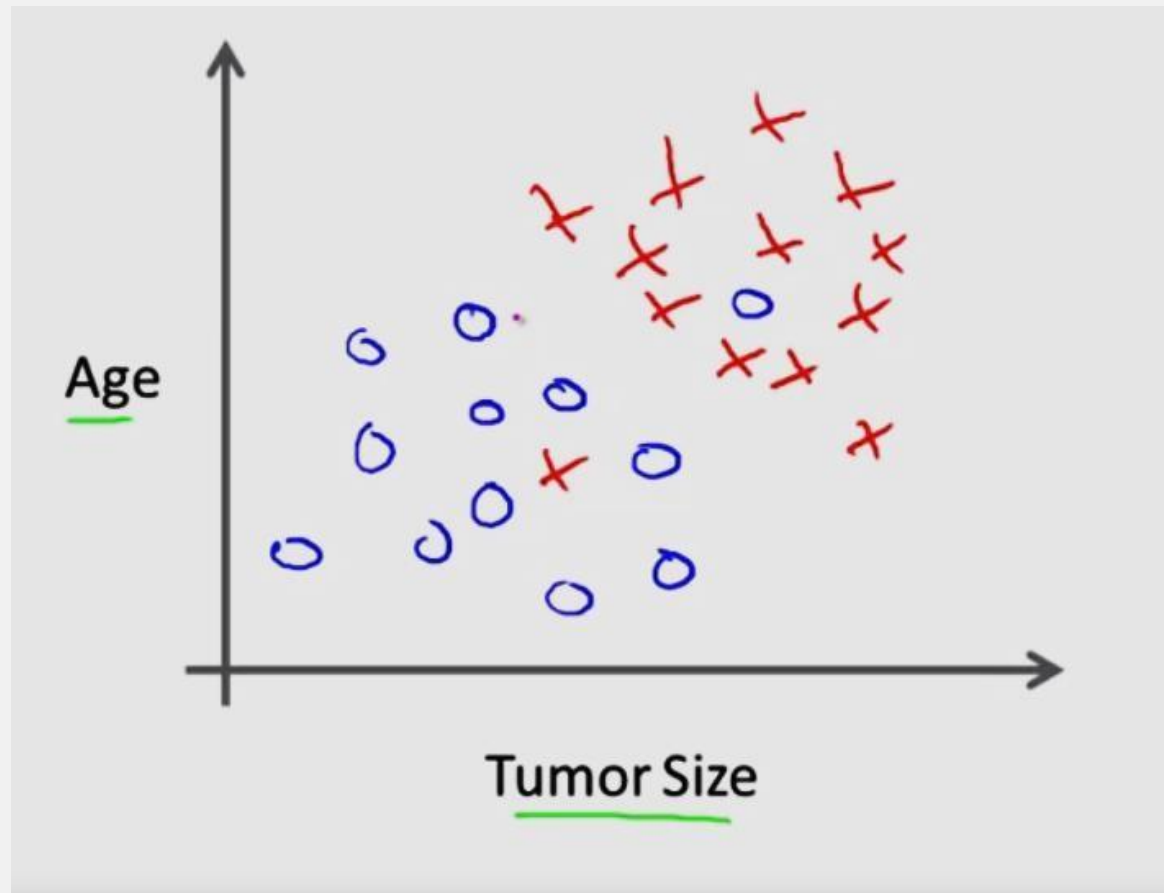
- Supervised learning (regression)



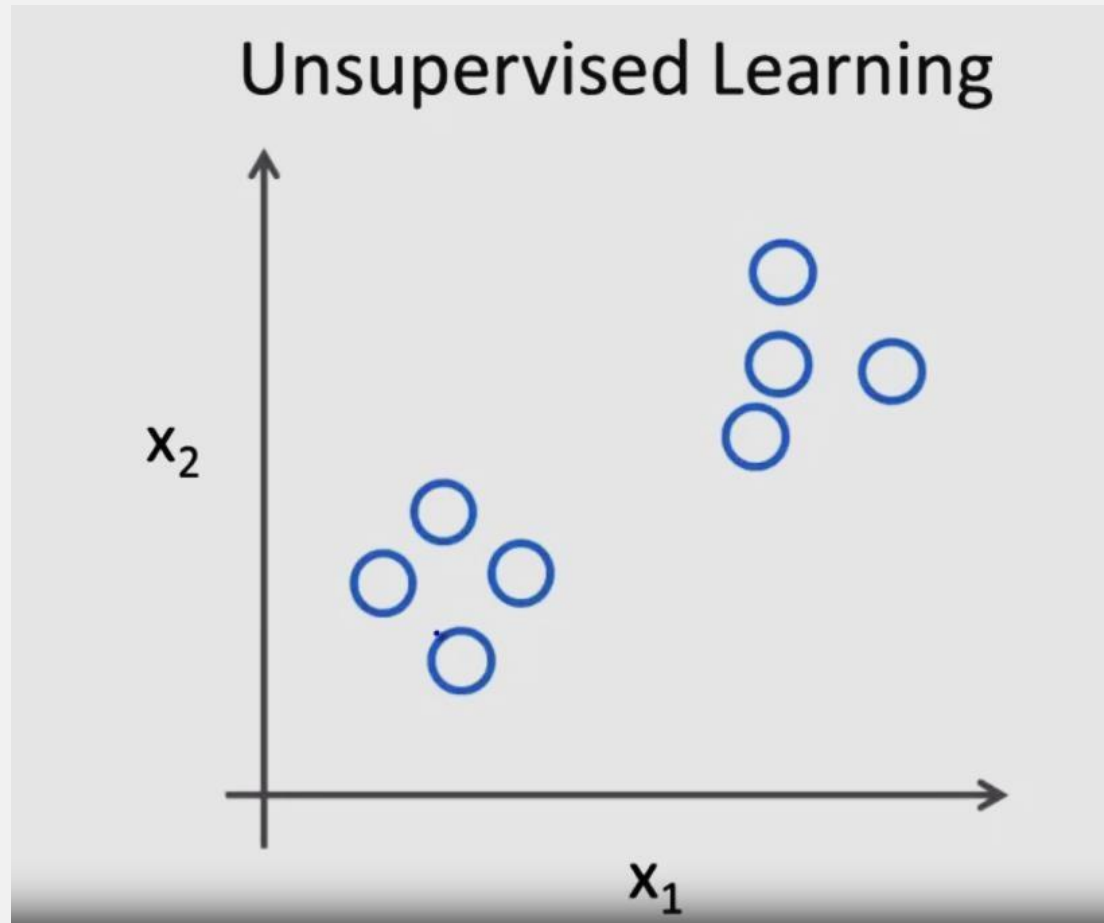
- Supervised learning (classification)



- Supervised learning (classification)



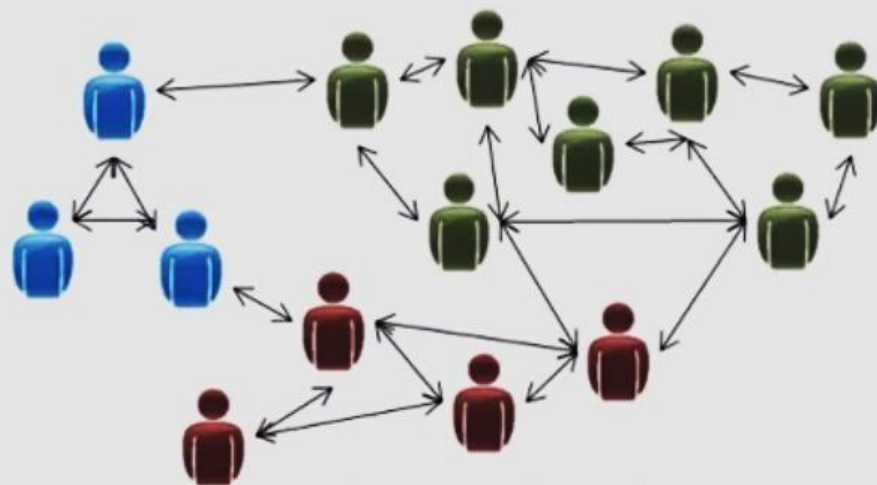
- Unsupervised learning (clustering)



- Example



Organize computing clusters



Social network analysis



Market segmentation

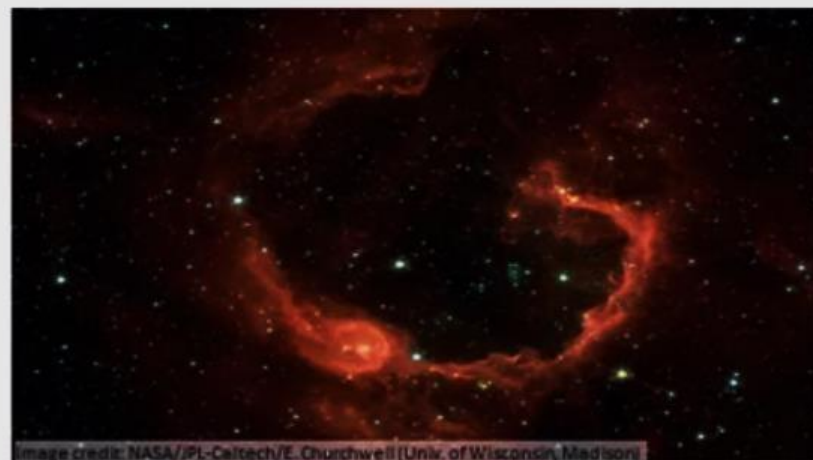


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Astronomical data analysis

