Chapter 04. 고객 이탈 예측 (KNN)

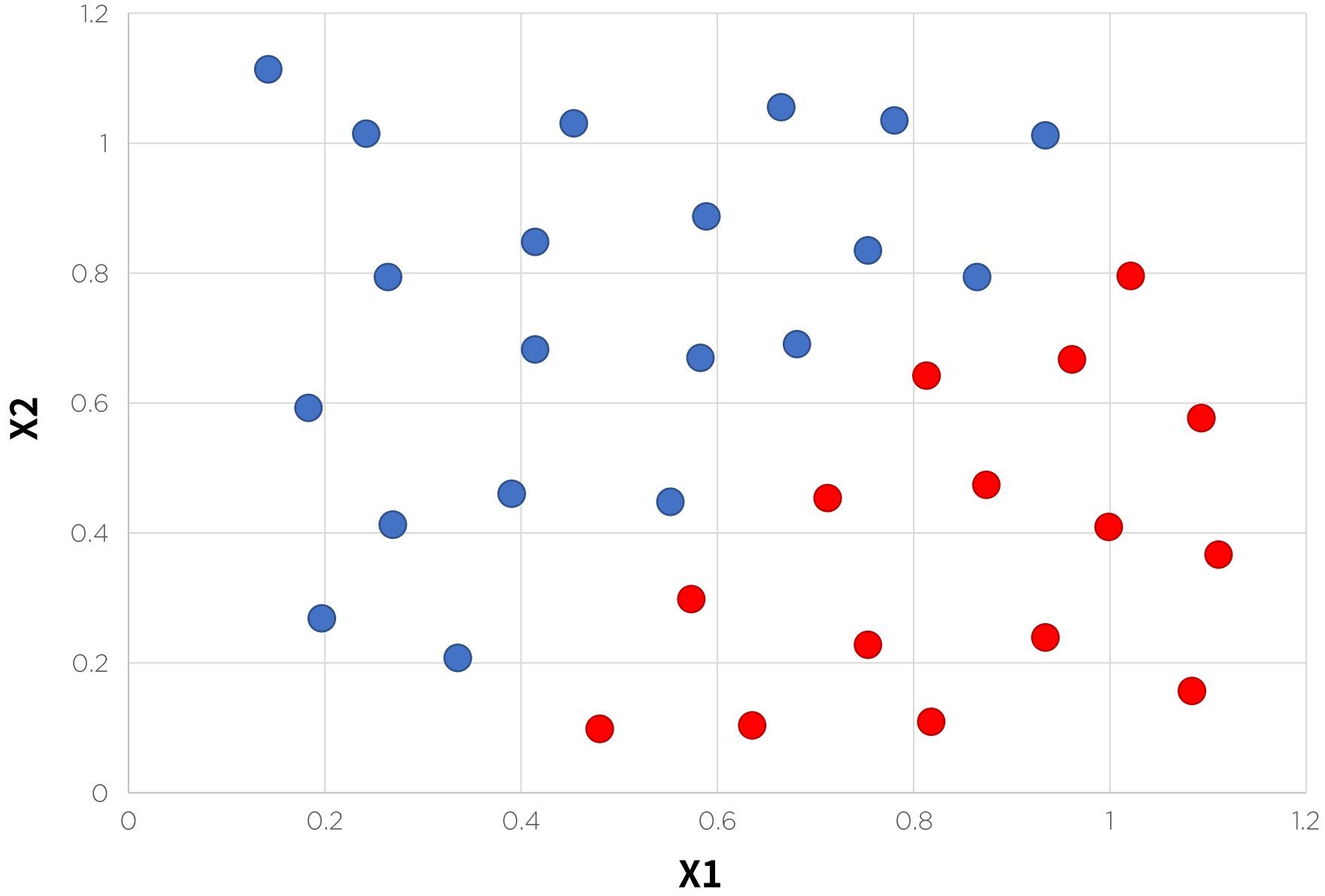
분석의 목적

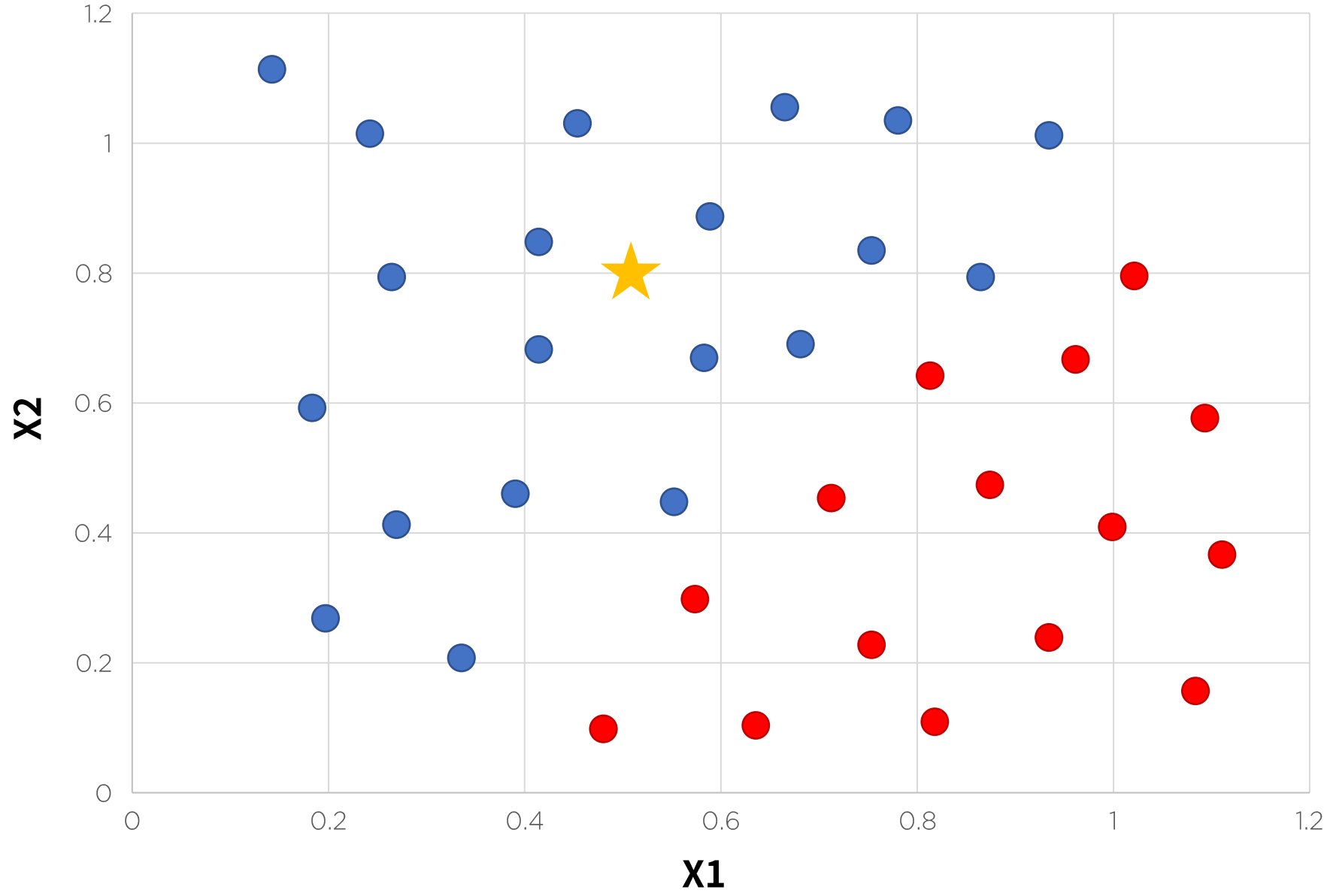
KNN 알고리즘으로
고객 이탈 (Customer Churn)을 예측

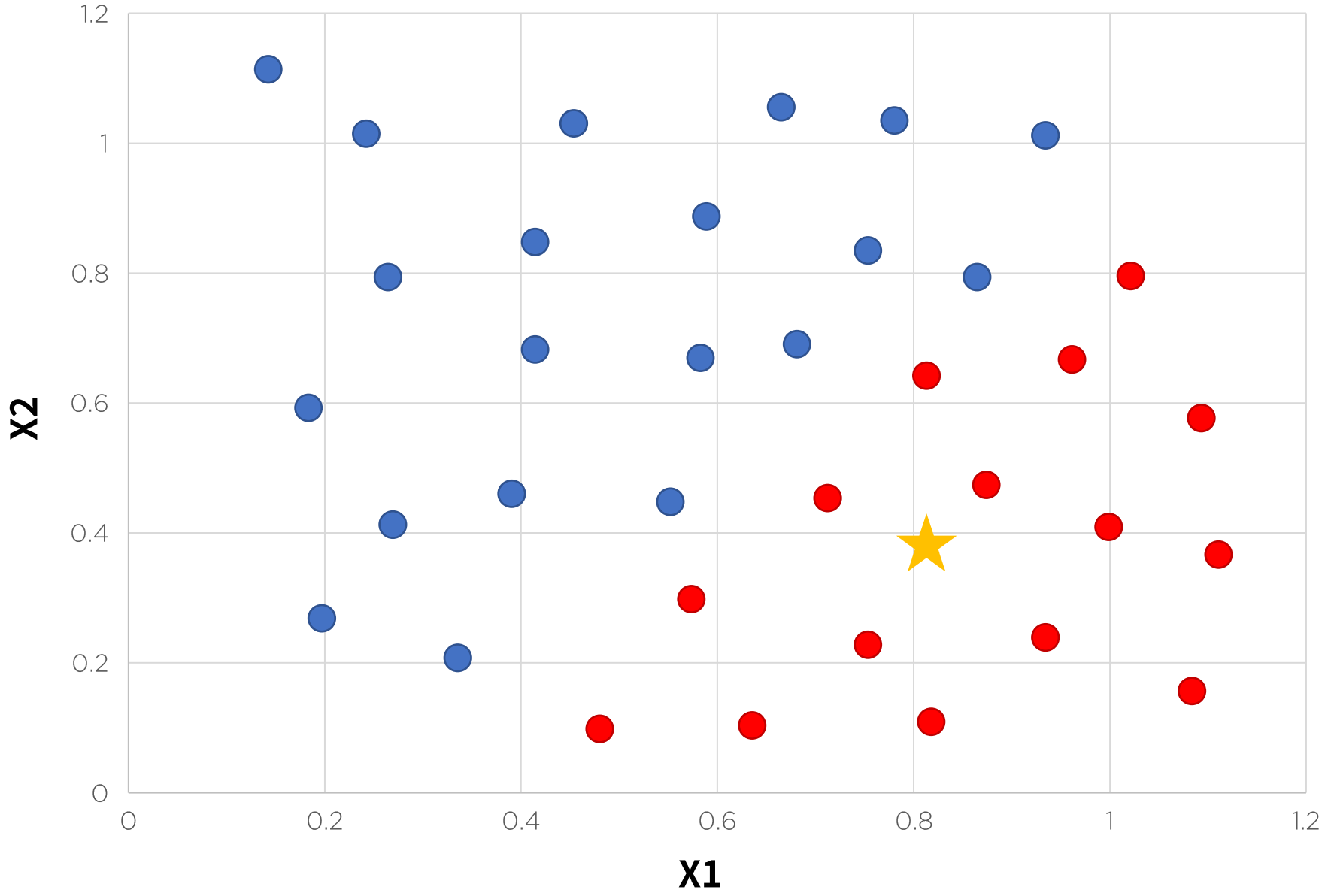
– Binary Classification

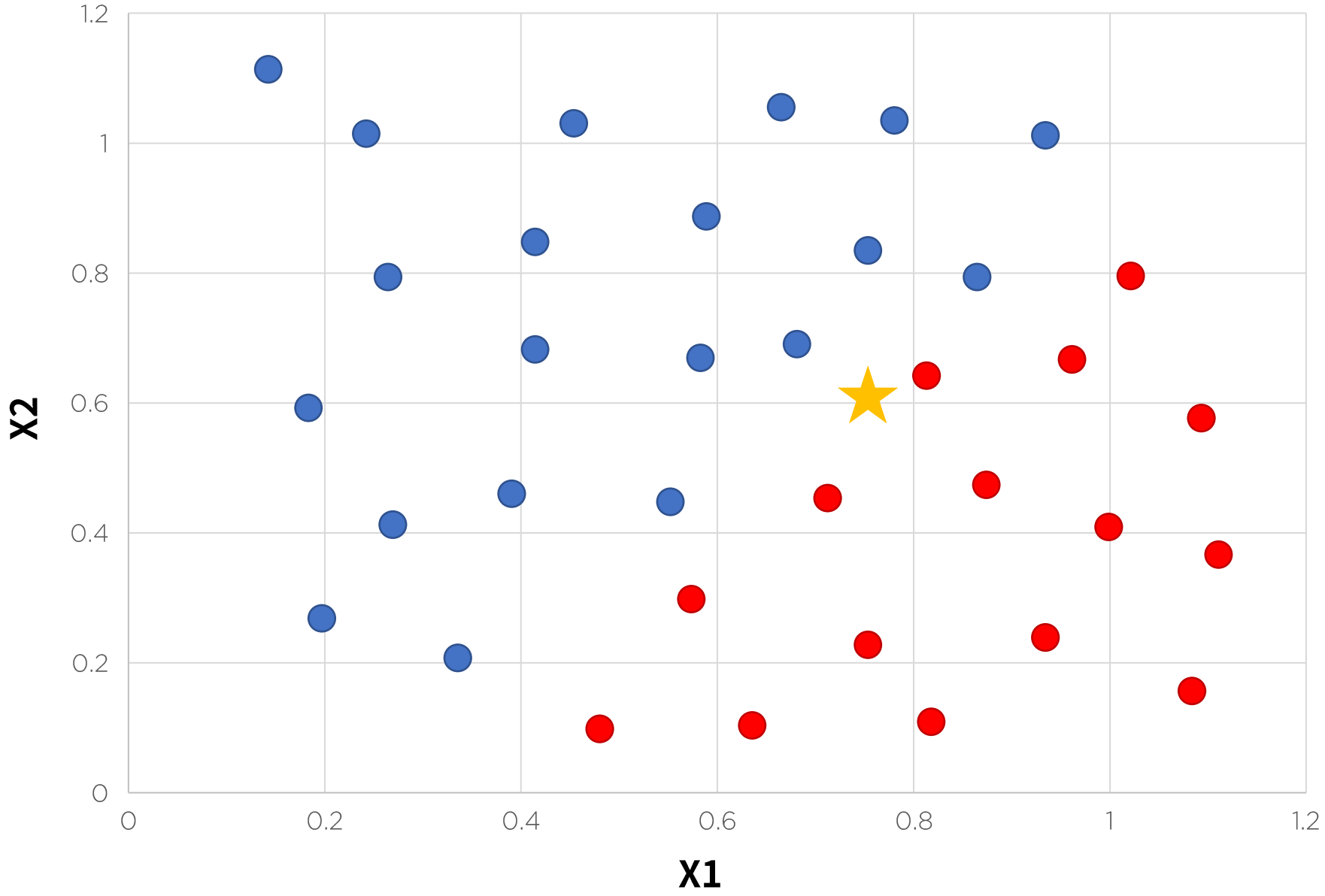
Chapter 04. 고객 이탈 예측 (KNN)

KNN의 원리







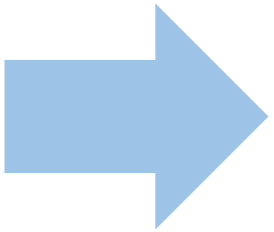


Gender
Male
Male
Female
Male
Female
Female
Female

Season
Spring
Summer
Fall
Winter
Fall
Winter
Spring

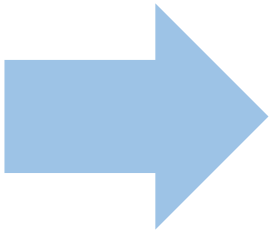
Gender
Male
Male
Female
Male
Female
Female
Female

Gender
Male
Male
Female
Male
Female
Female
Female



Male	Female
1	0
1	0
0	1
1	0
0	1
0	1
0	1

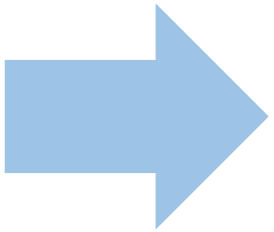
Gender
Male
Male
Female
Male
Female
Female
Female



Male	Female
1	0
1	0
0	1
1	0
0	1
0	1
0	1

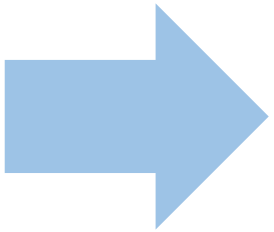
Season
Spring
Summer
Fall
Winter
Fall
Winter
Spring

Season
Spring
Summer
Fall
Winter
Fall
Winter
Spring



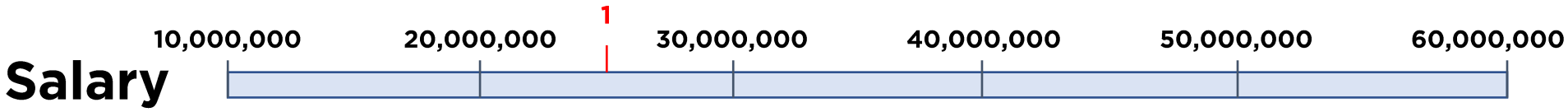
Spring	Summer	Fall	Winter
1	0	0	0
0	1	0	0
0	0	1	0
0	0	0	1
0	0	1	0
0	0	0	1
1	0	0	0

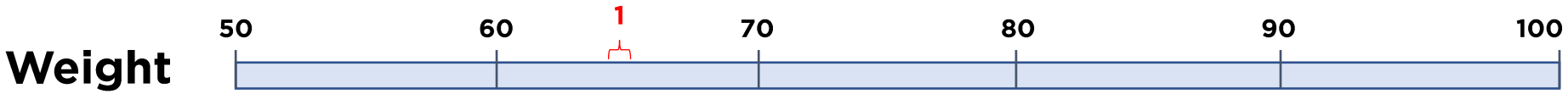
Season
Spring
Summer
Fall
Winter
Fall
Winter
Spring



Spring	Summer	Fall	Winter
1	0	0	0
0	1	0	0
0	0	1	0
0	0	0	1
0	0	1	0
0	0	0	1
1	0	0	0

Different Scale?





Standard Scaler

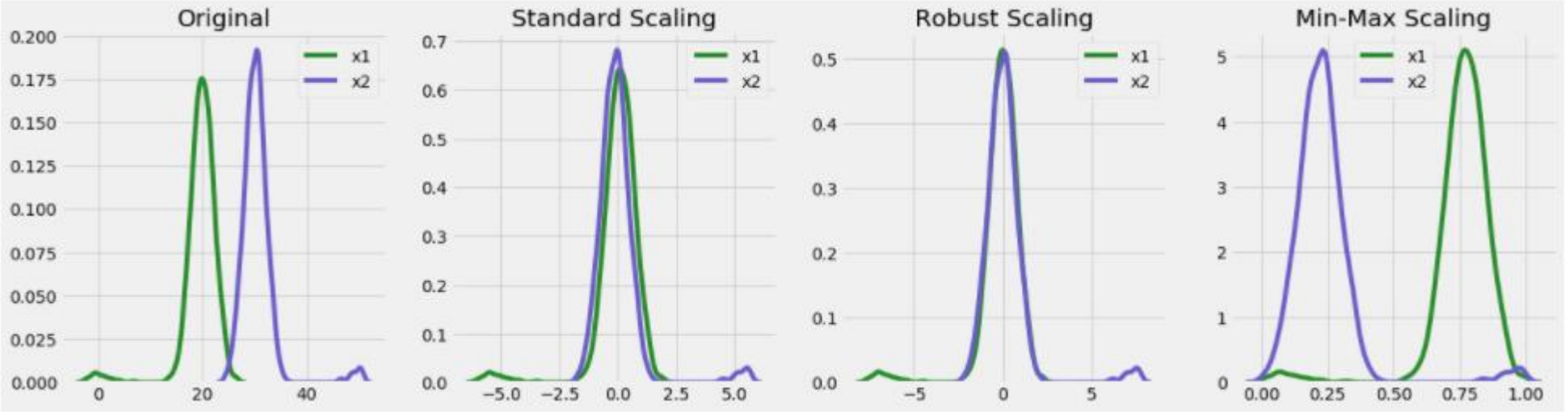
$$x_i' = \frac{x_i - \bar{x}}{\sigma}$$

Robust Scaler

$$x'_i = \frac{x_i - Q1}{Q3 - Q1}$$

Min-Max Scaler

$$x_i' = \frac{x_i - \min(x)}{\max(x) - \min(x)}$$



KNN	Logistic Regression
Non Parametric	Parametric
Slower	Faster
Only Output	More Information