디지털미디어랩 머신러닝 여름캠프 4주차

(2) Support Vector Machine

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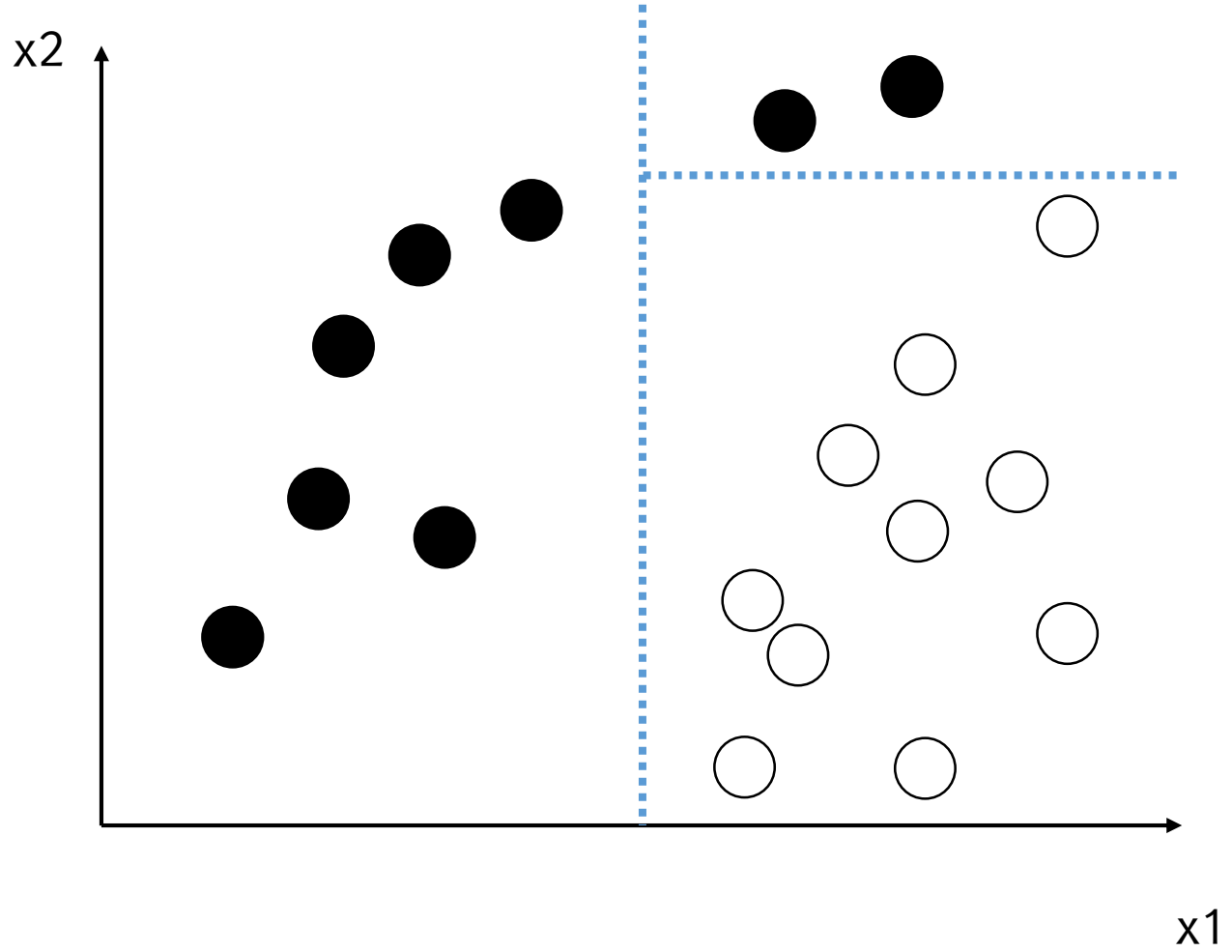
DIGITAL
MEDIA LAB.

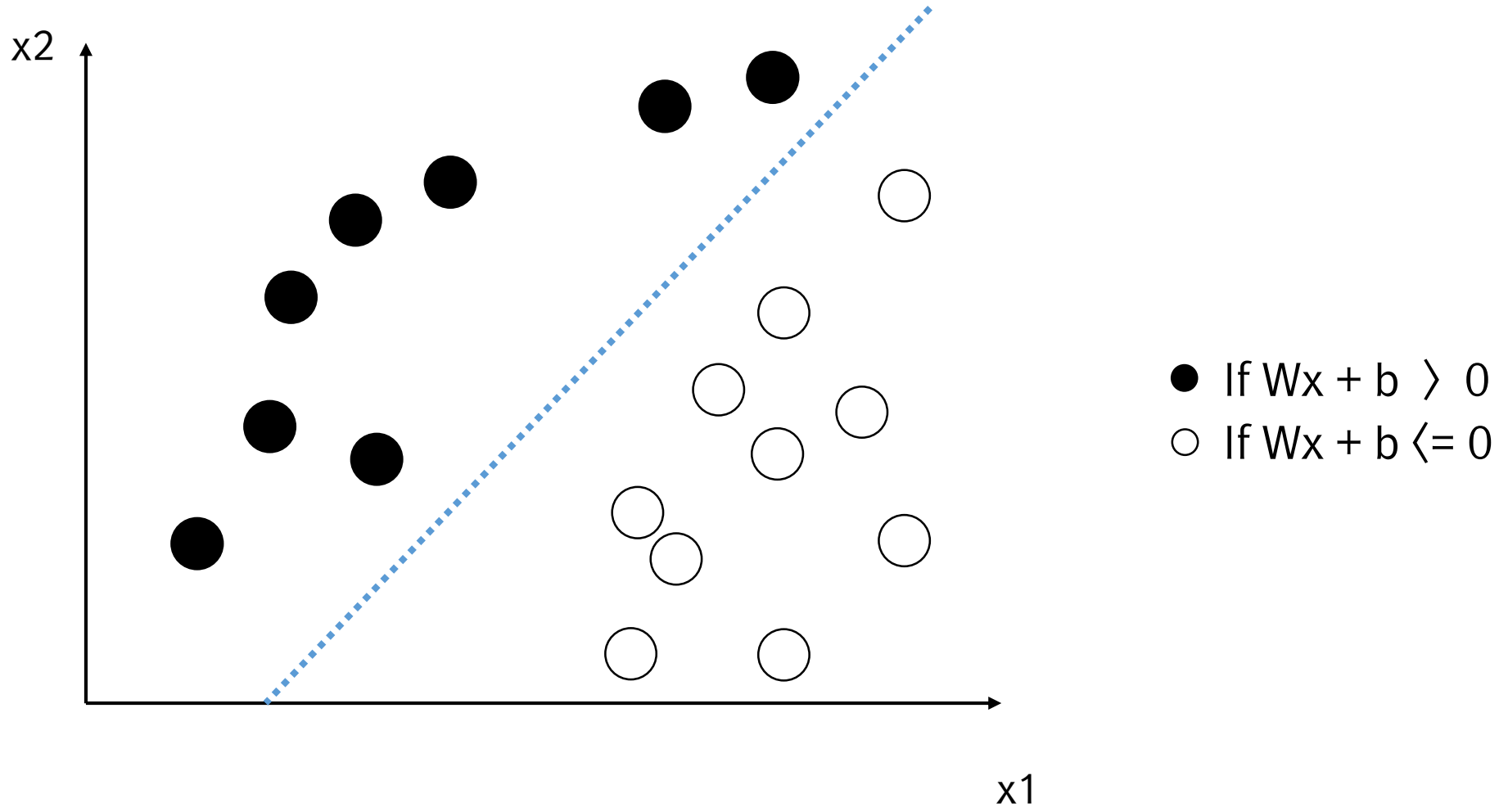
목차

- 선형 분류
- Support Vector Machine

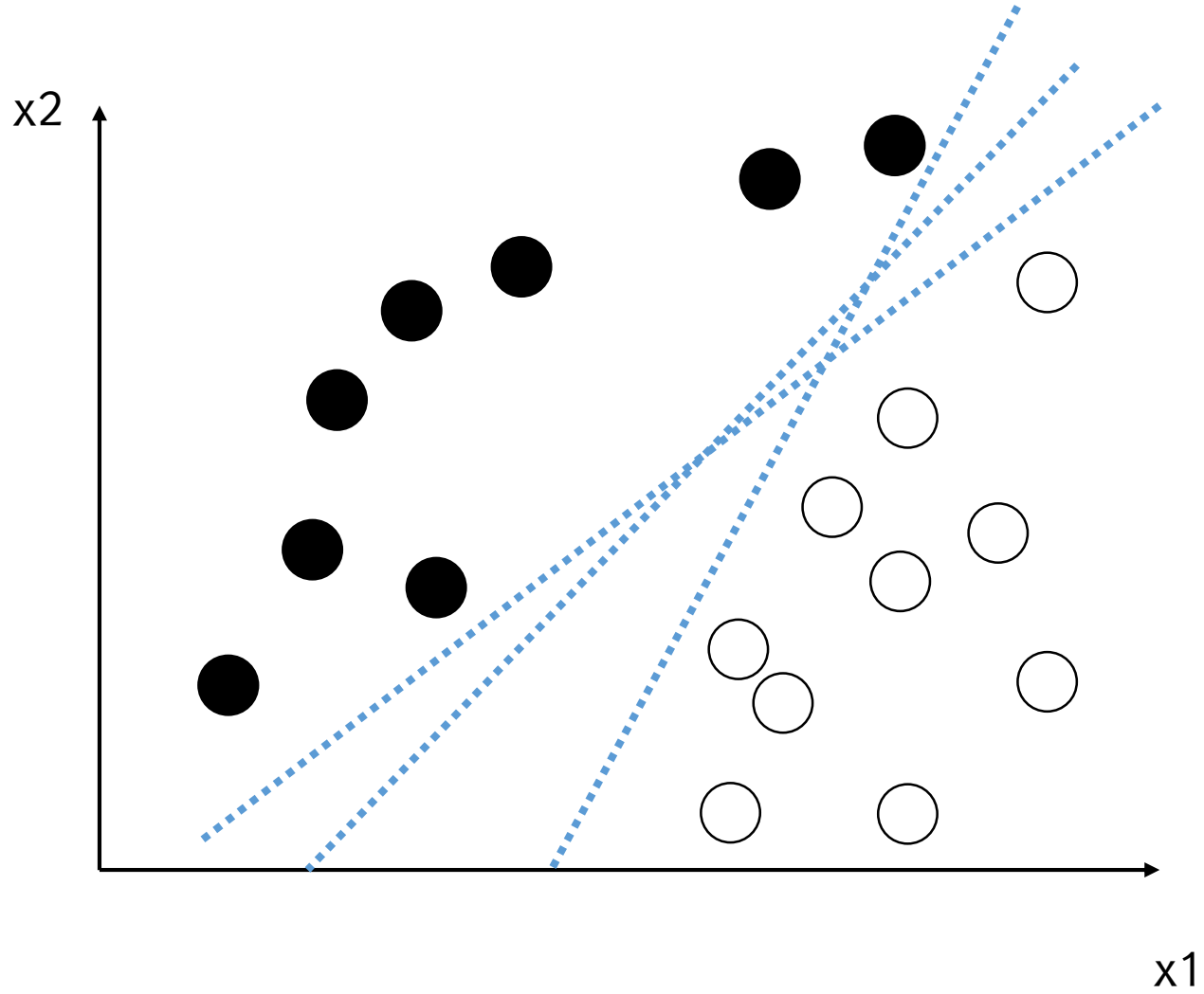
Decision Tree



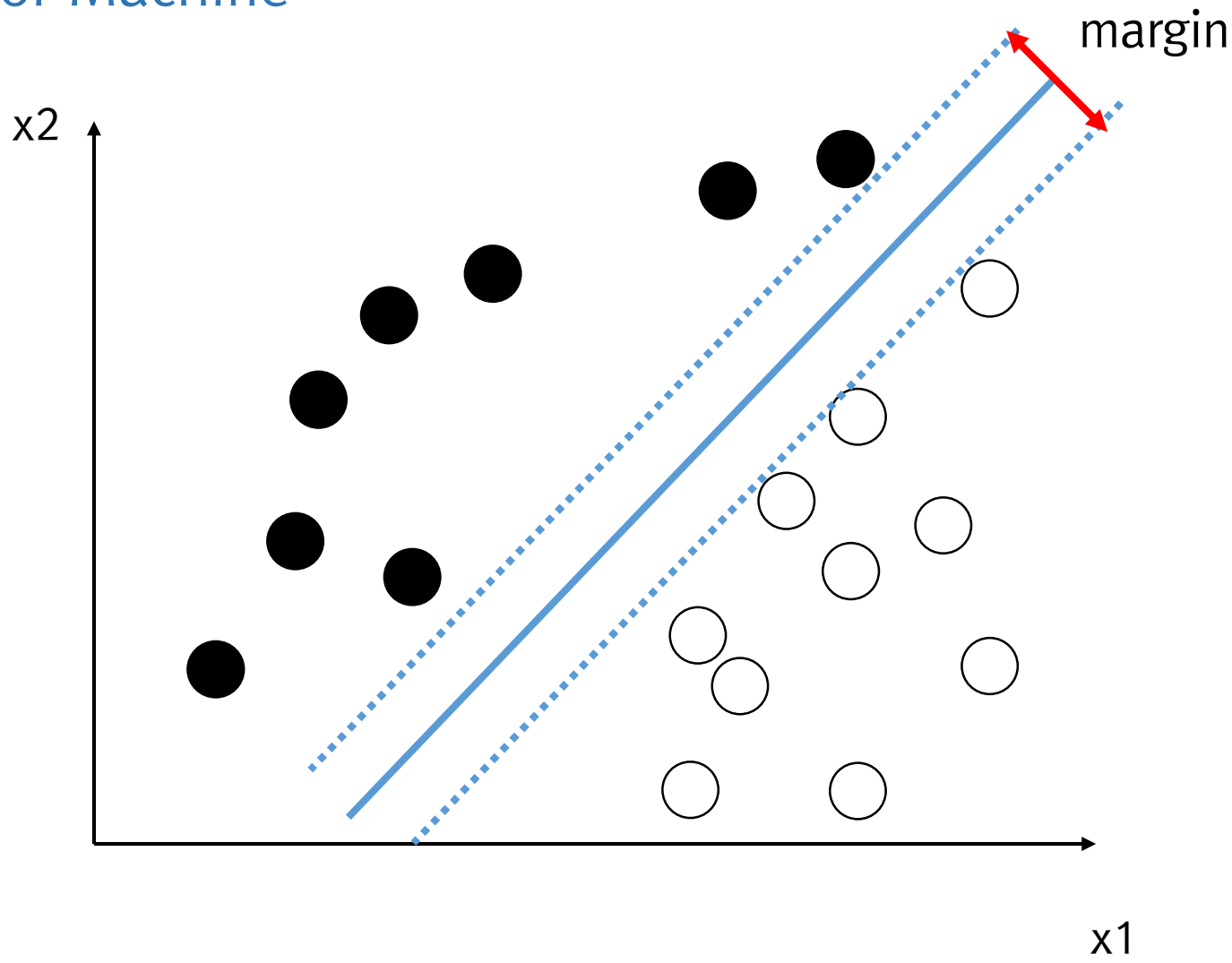
선형 분류



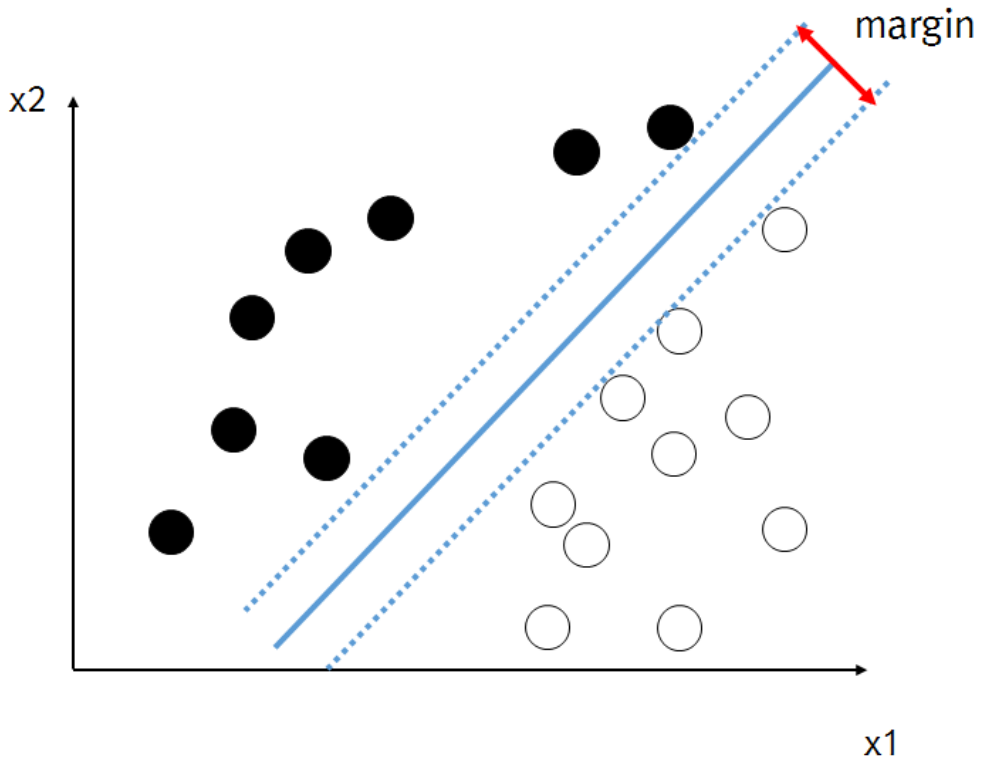
어떻게 공간을 더 잘 나눌 수 있을까



Support Vector Machine

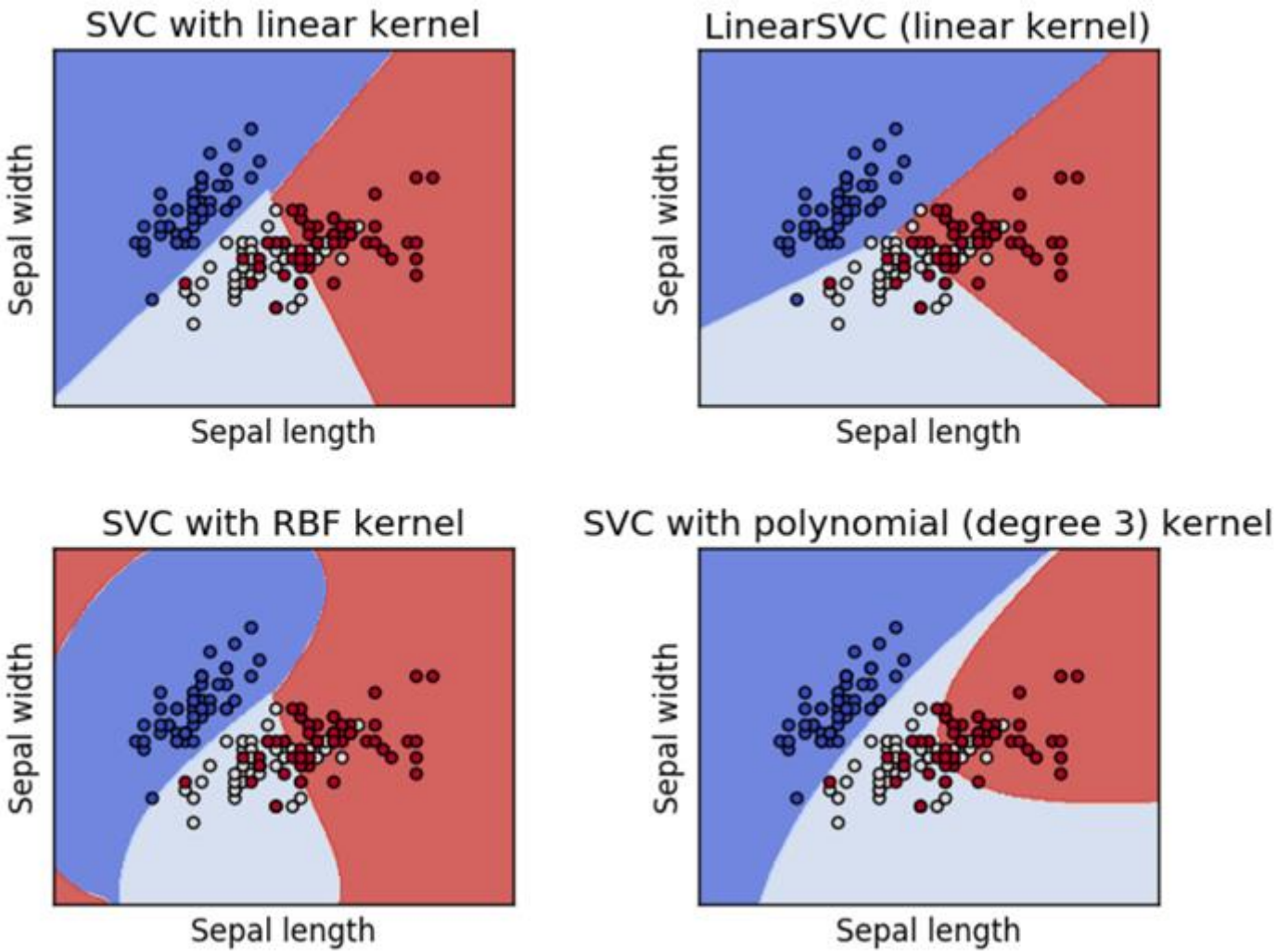


Support Vector Machine (Margin)



- 하나의 선이 아닌 두꺼운 막대로 분할
- 폭(Margin)을 최대로 만드는 것이 목적
- 폭을 최대로 만들어야 모델이 안정적

Support Vector Machine (커널)



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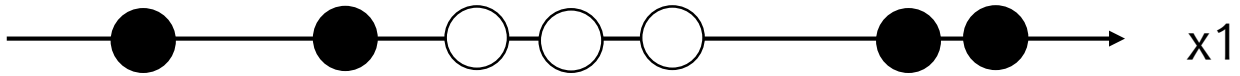

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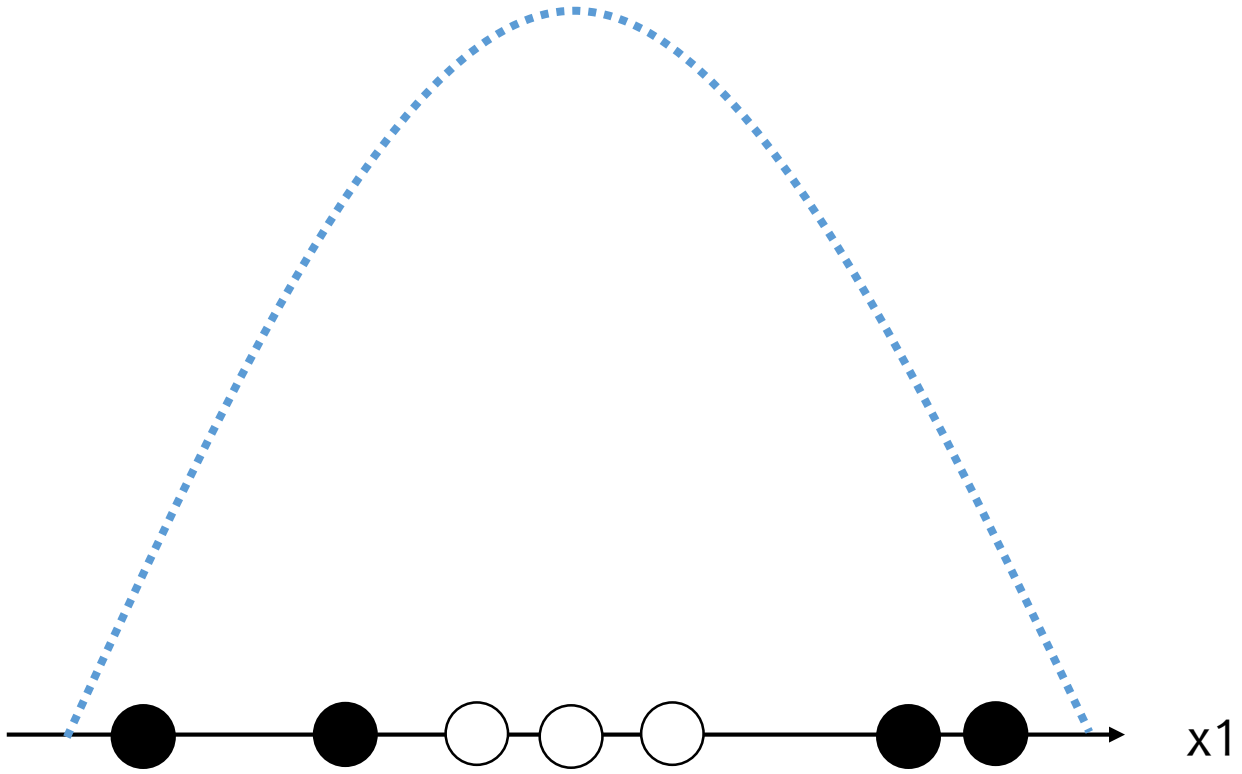

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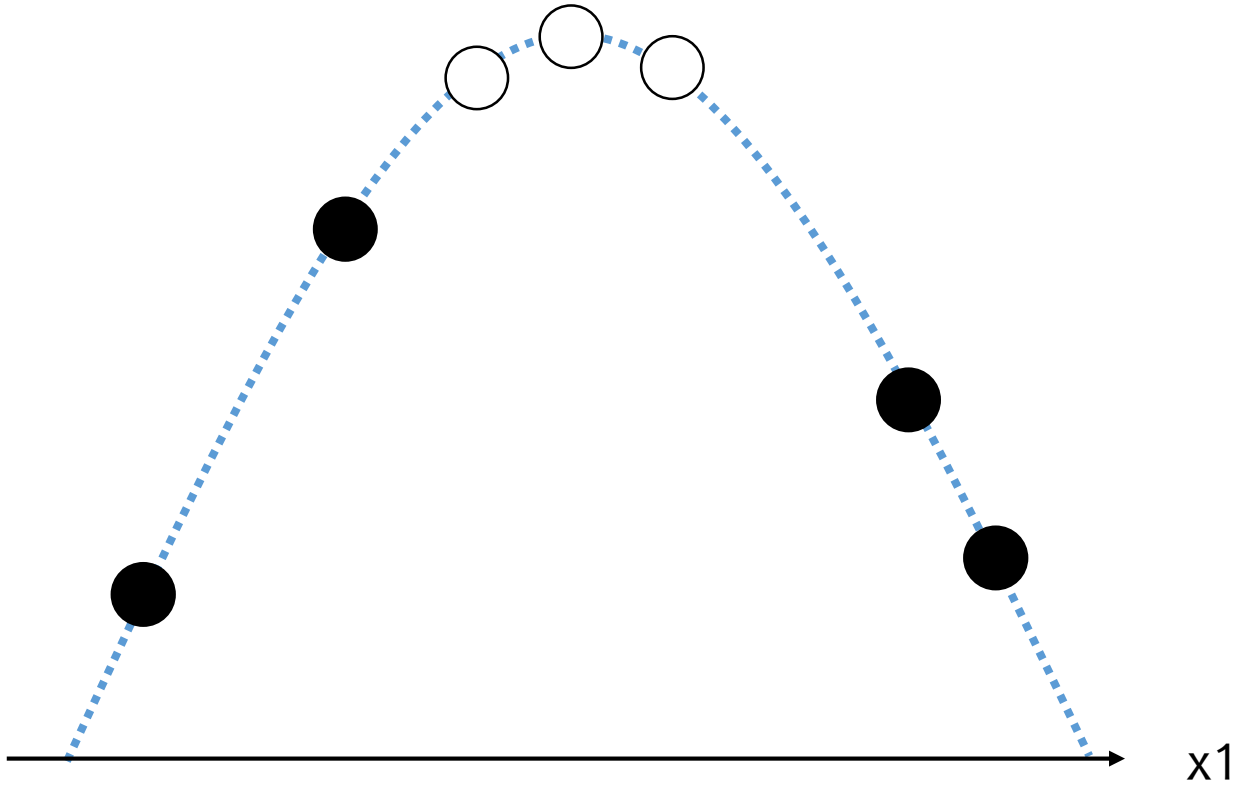

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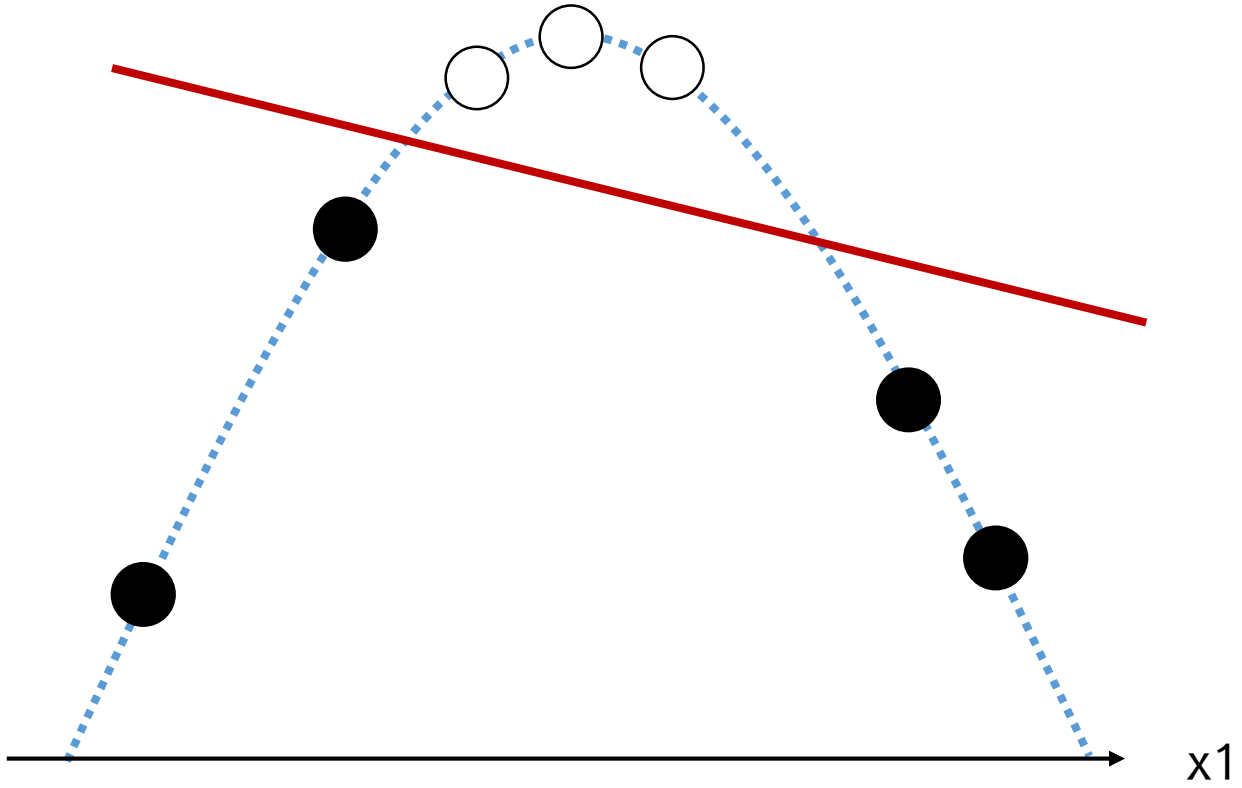

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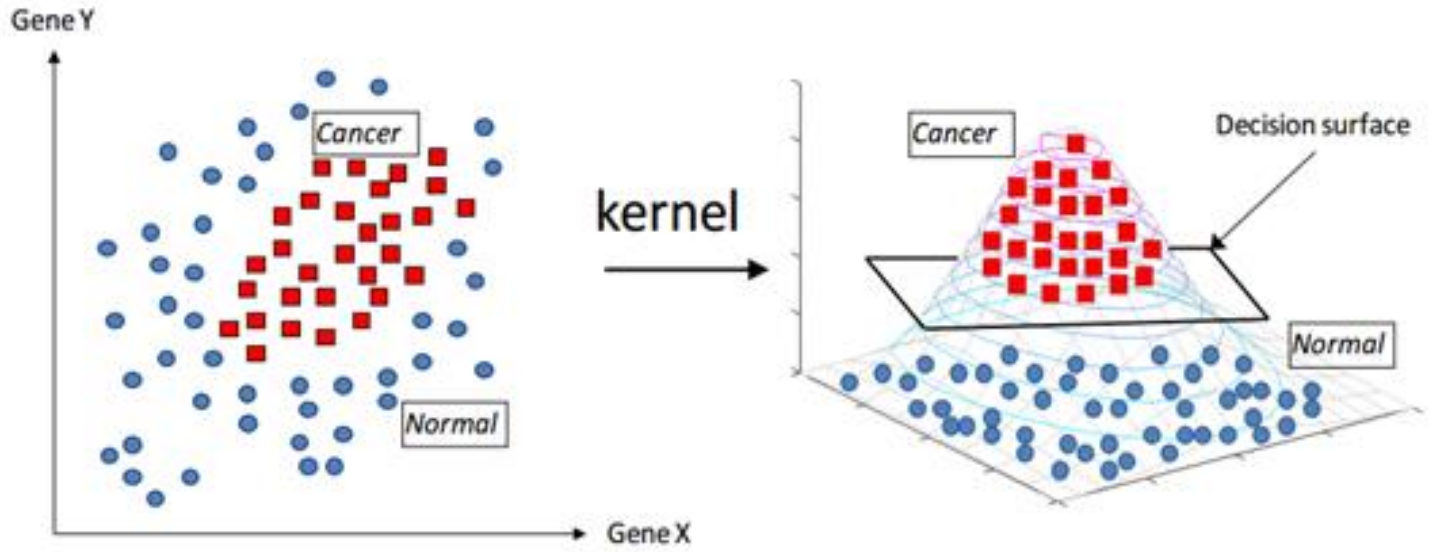
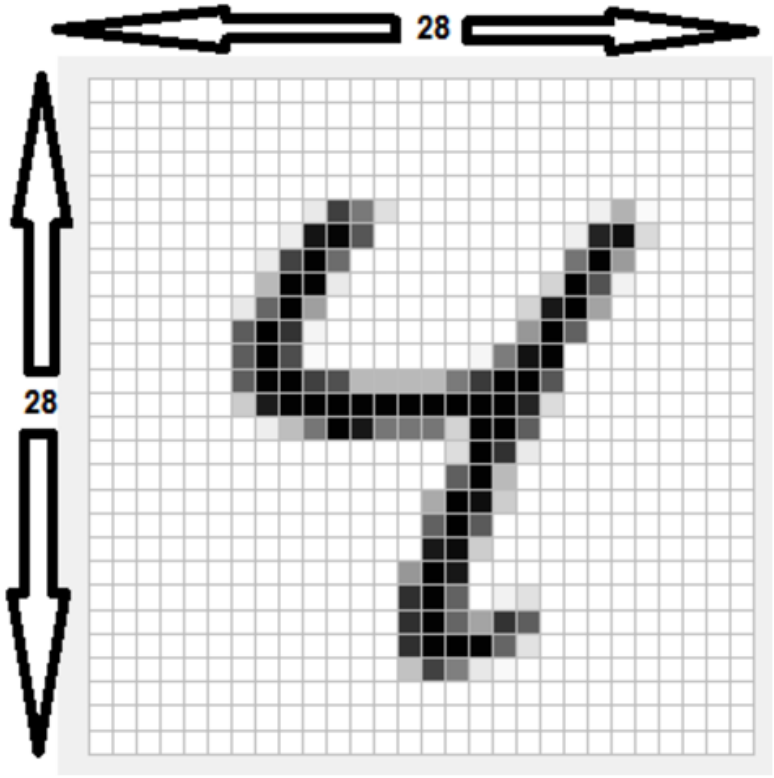


MNIST 실습

- Modified National Institute of Standards and Technology database
- 이미지 인식의 가장 기초가 되는 손글씨 데이터

MNIST 실습

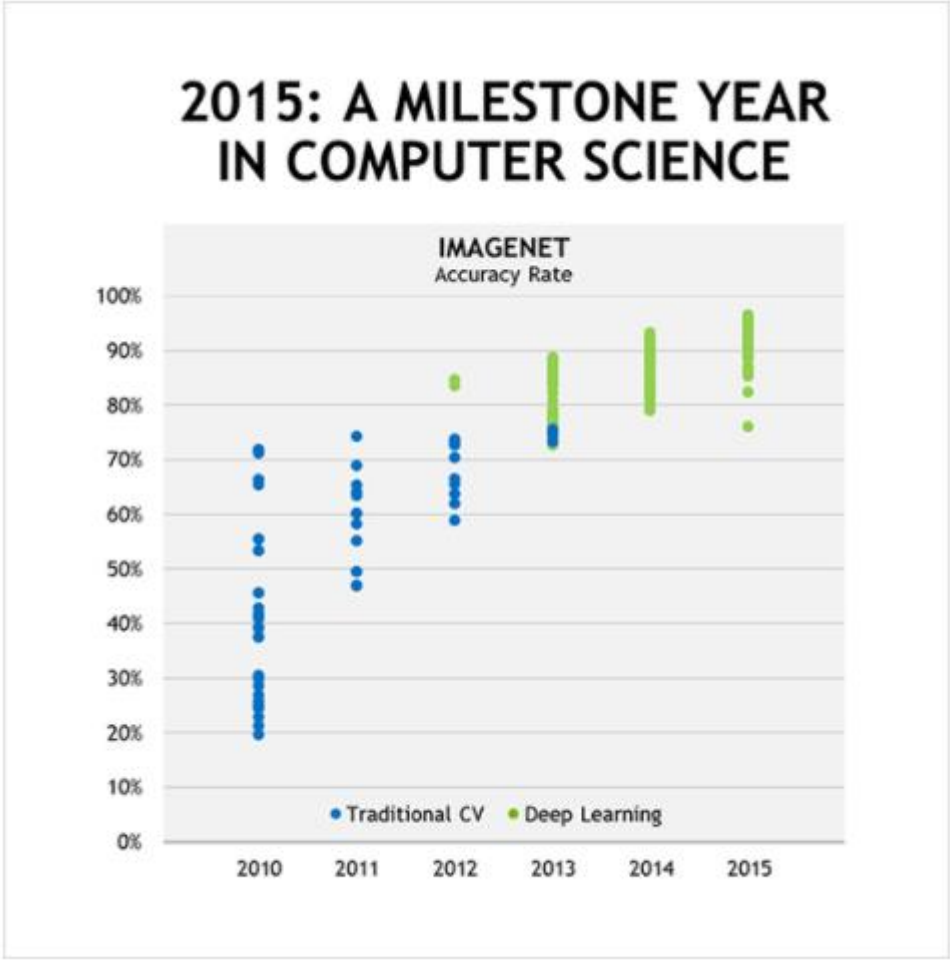


- Features : 28x28 = 784개
- Target : 0~9 (nominal)

ImageNet Accuracy Rate

- 천 만개 이상의 이미지 DB
- 3만 가지 이상의 카테고리

- SVM (Vapnik, 1979)



참고 자료

MNIST Description
http://derindelimavi.blogspot.kr/2015/04/mnist-el-yazs-rakam-veri-seti.html

MNIST Dataset
https://www.kaggle.com/c/digit-recognizer/data

2015: A Milestone year in Computer Science
https://blogs.nvidia.com/blog/2016/01/12/accelerating-ai-artificial-intelligence-gpus/