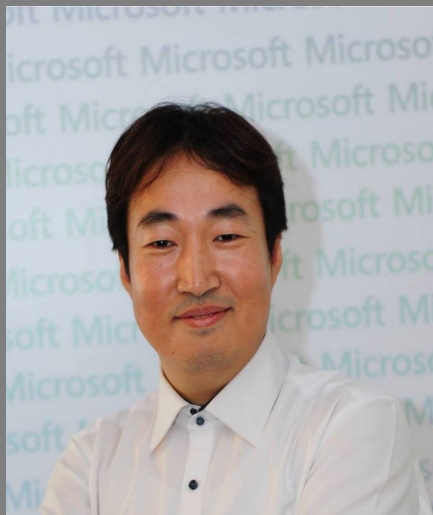


What is the Machine Learning

강사 프로필

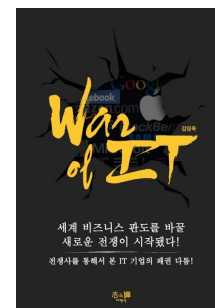


김영욱

Hello AI

약력

- Hello AI
- Microsoft 플랫폼 사업부 근무
Technical Evangelist
Software Engineer
- Microsoft 공공사업부 근무
Account Technology Strategist
Microsoft Certificate Trainer
- Microsoft MVP
Azure MVP 2021
ASP.NET MVP 2006~2008
- 저서
'가장 빨리 만나는 챗봇 프로그래밍'
'War of IT' 출간 (지앤선 출판사)
- 웹 접근성 2.0 표준 자문위원
- 디지털 교과서 프로젝트 리더
- 한국방송통신대학교 출강(2020년)
- 인천재능대학교 출강(2021년)
- 국가과학기술인력개발원 KIRD
최우수강사 2018, 2020



학습목표

- Machine Learning의 원리와 기본 이론을 설명할 수 있다.
- 다양한 Machine Learning 사례를 살펴보고, 활용 방안을 찾을 수 있다.
- Machine Learning의 주요 Algorithm을 설명할 수 있다.

학습내용

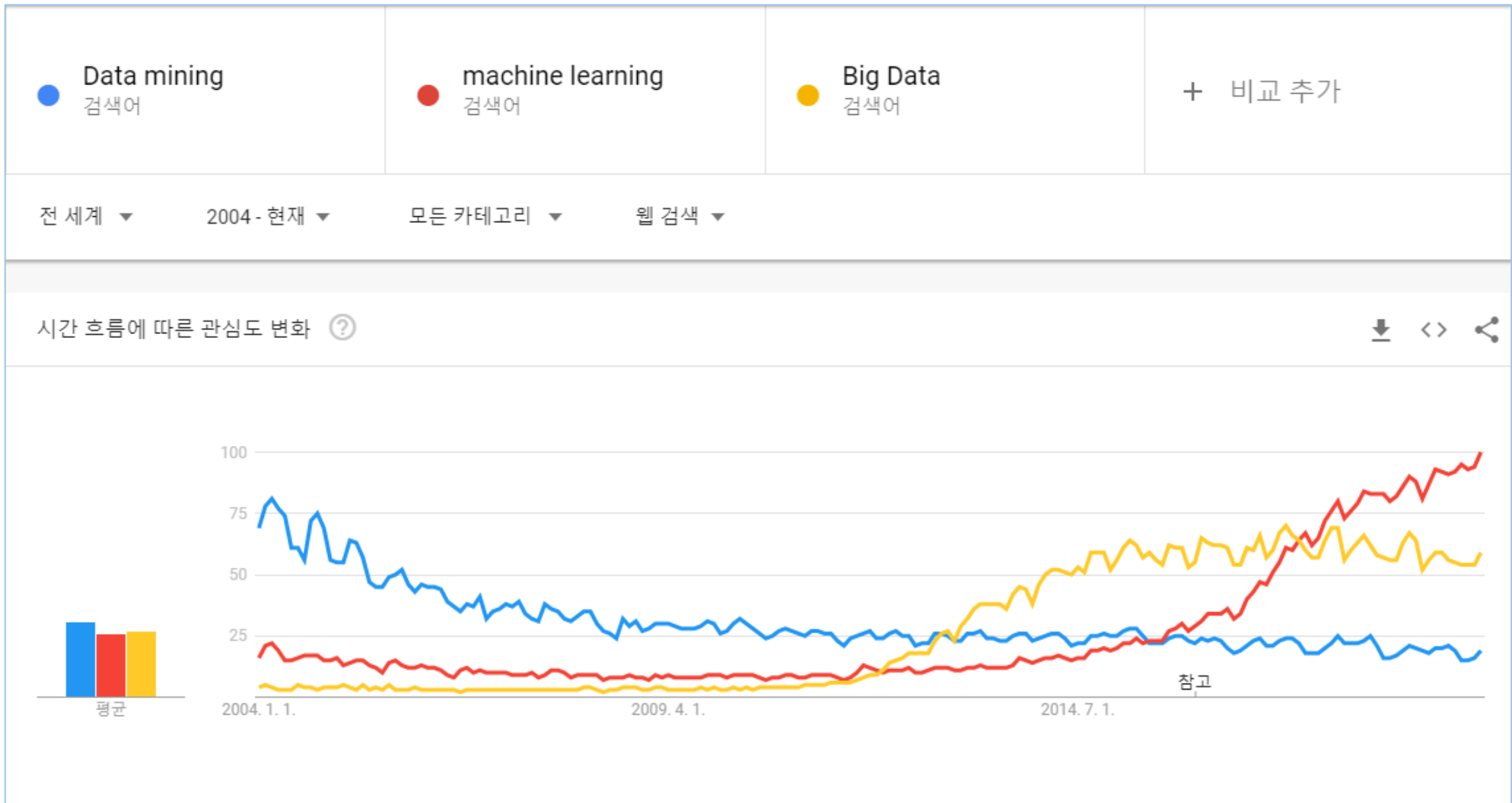
- Machine Learning의 소개와 사례
- Machine Learning 의 주요 Algorithm

Contents

01 Introduction to Machine Learning

02 Machine Learning algorithm

01 Introduction to Machine Learning



출처: 구글 트렌드

ARTIFICIAL INTELLIGENCE

Early artificial intelligence stirs excitement.



MACHINE LEARNING

Machine learning begins to flourish.



DEEP LEARNING

Deep learning breakthroughs drive AI boom.



1950's 1960's 1970's 1980's 1990's 2000's 2010's

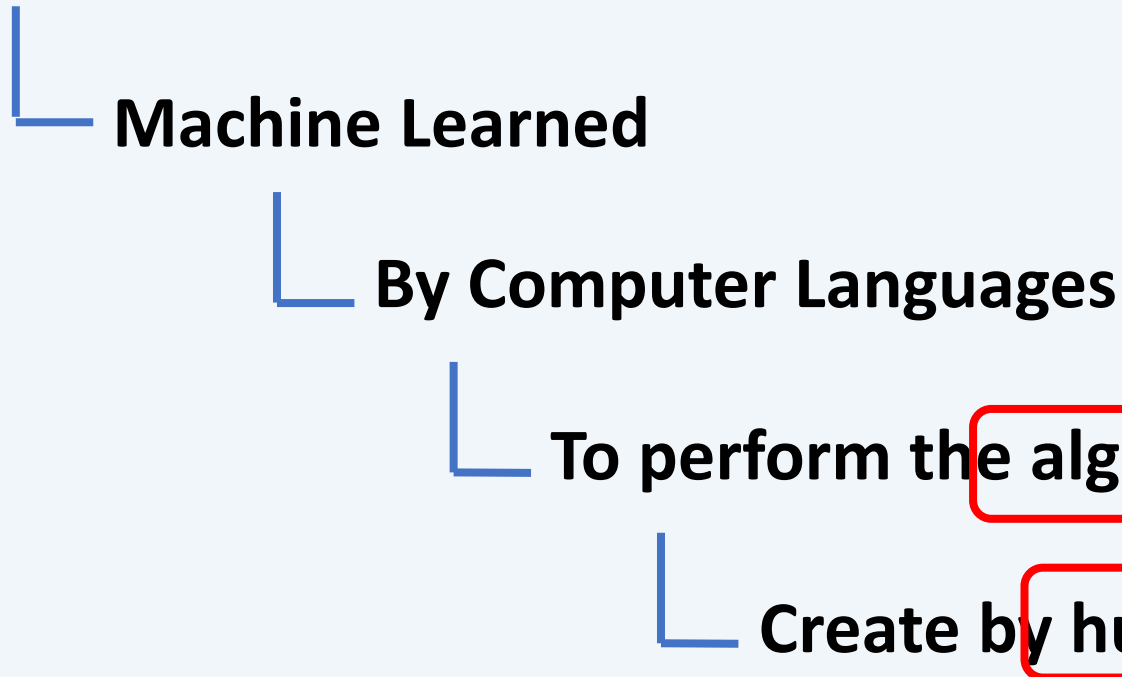
Since an early flush of optimism in the 1950's, smaller subsets of artificial intelligence - first machine learning, then deep learning, a subset of machine learning - have created ever larger disruptions.

출처: <http://bisintek.com/science/2017/12/27/knowning-basic-artificial-intelligence/>

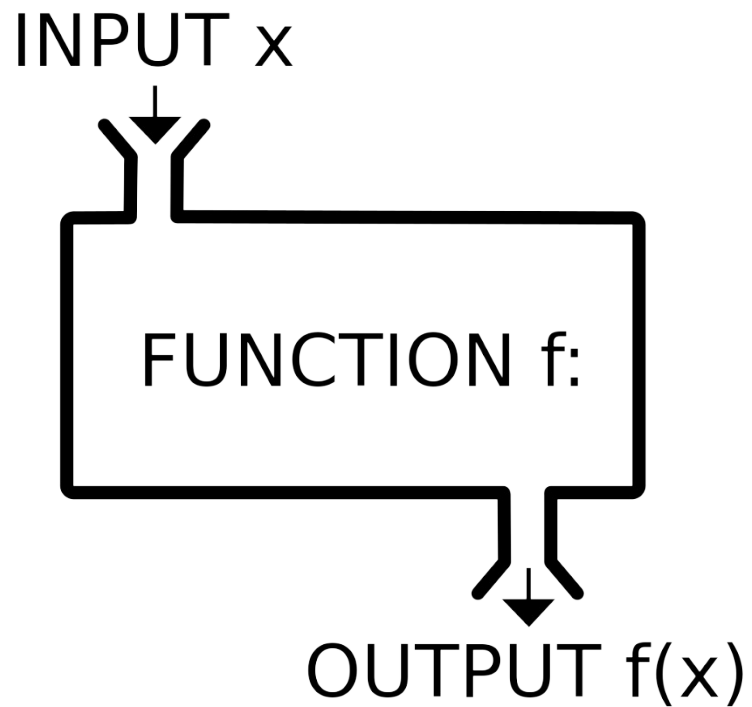


“인간이 개발한 알고리즘을 컴퓨터 언어를 통해
기계에게 학습 시키는 행위”

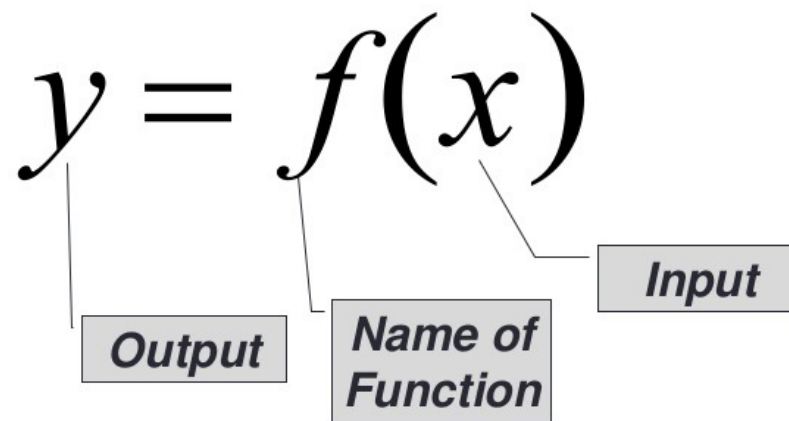
Machine Learning



문제를 해결하기 위한
방법들의 체계적인 모임



Function Notation

$$y = f(x)$$


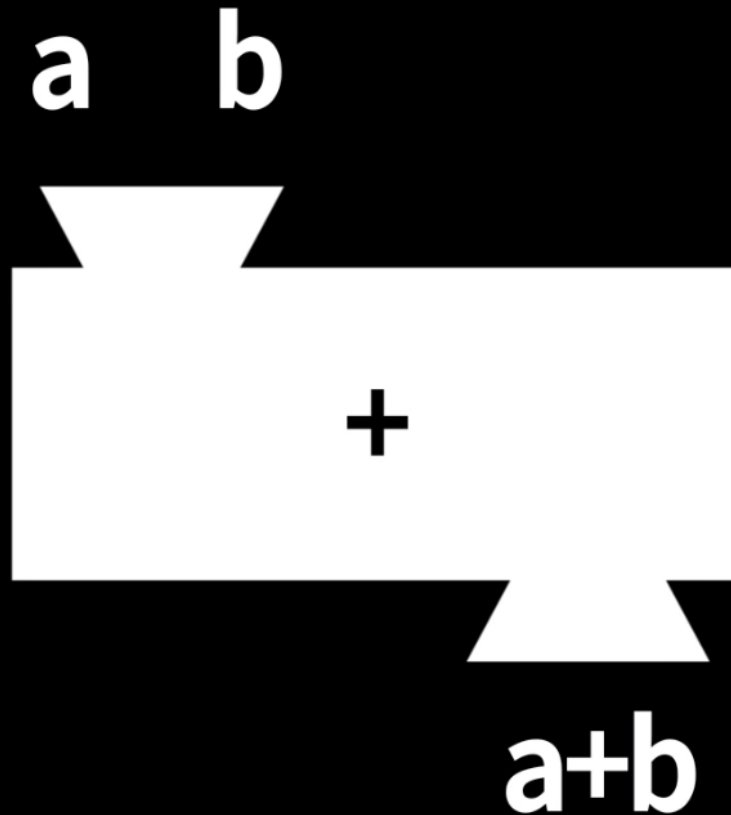
A diagram explaining the components of the function notation $y = f(x)$. Three labels in grey boxes are connected to parts of the equation by lines: "Output" points to y , "Name of Function" points to f , and "Input" points to x .

Output

Name of Function

Input

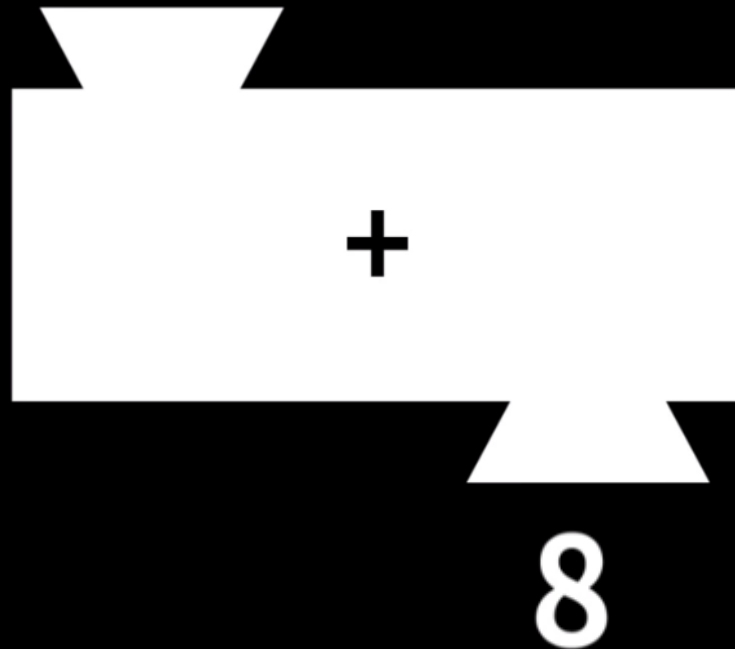
Computer Scinece



두 개를 더해서 결론을 내라는 프로그램을 만들면

Computer Scinece

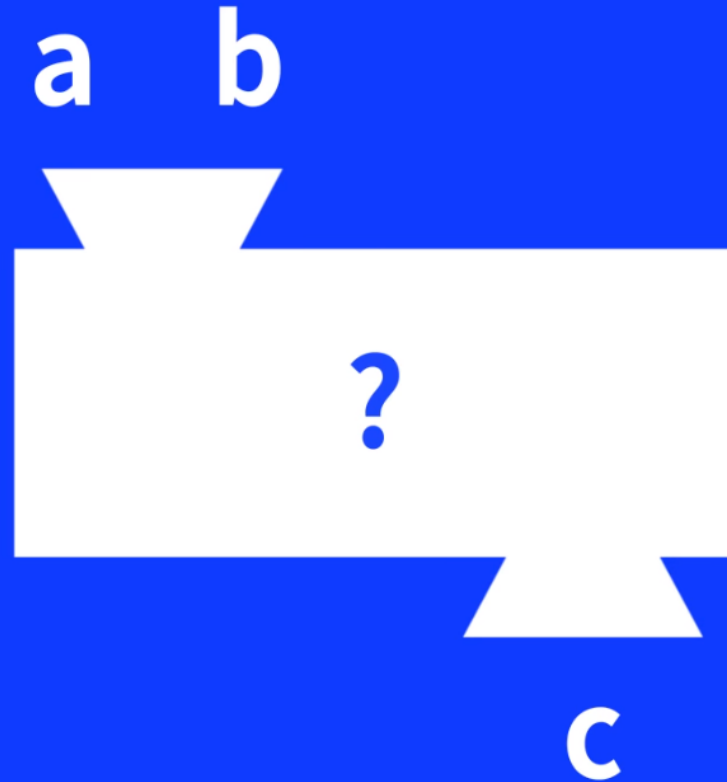
3 5



8

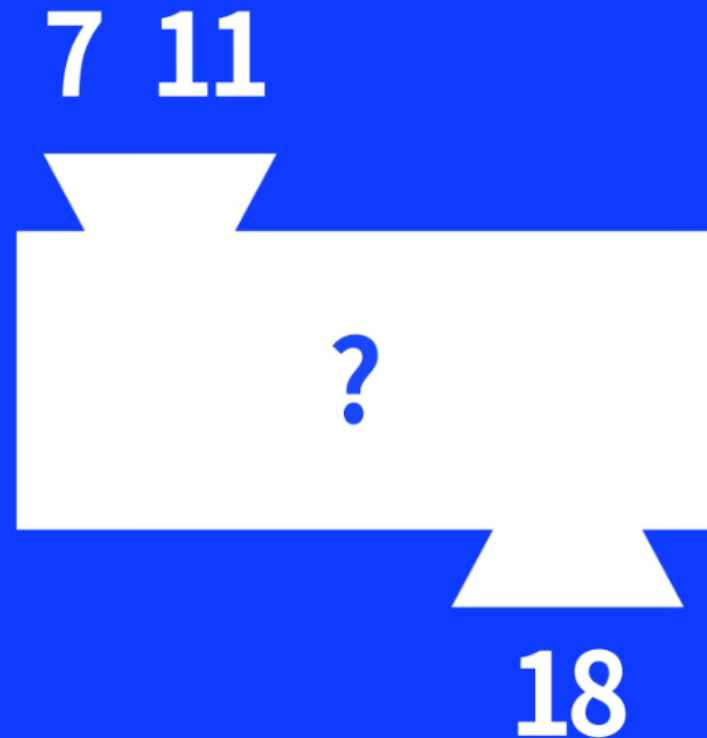
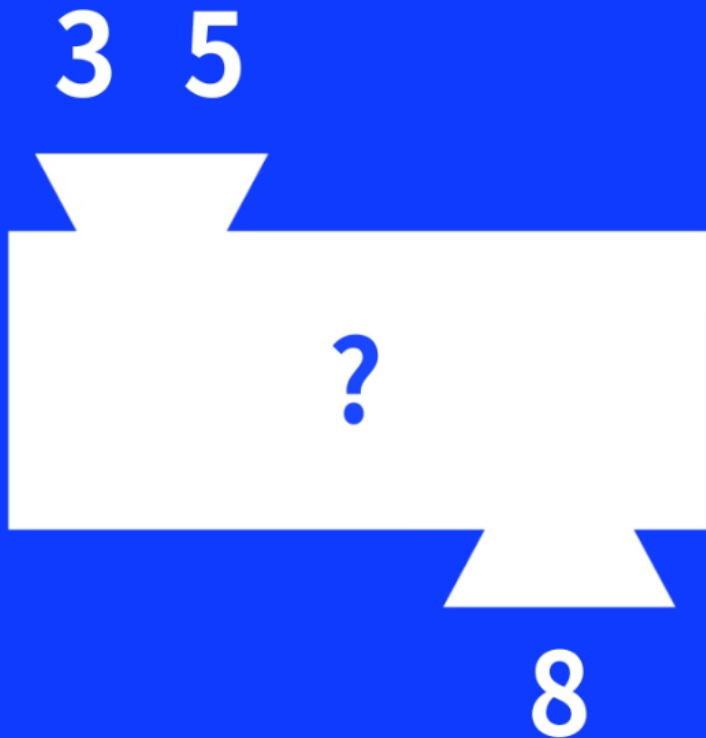
3과 5가 들어오면 8이 나가고

Machine Learning



머신러닝은 블랙박스 안에서 무슨 일이 일어나야 하는지를

Machine Learning



7과 11이 들어가면 18이 나오는 것과 같은 데이터는 쪽 있는데

Computer Science vs Machine Learning

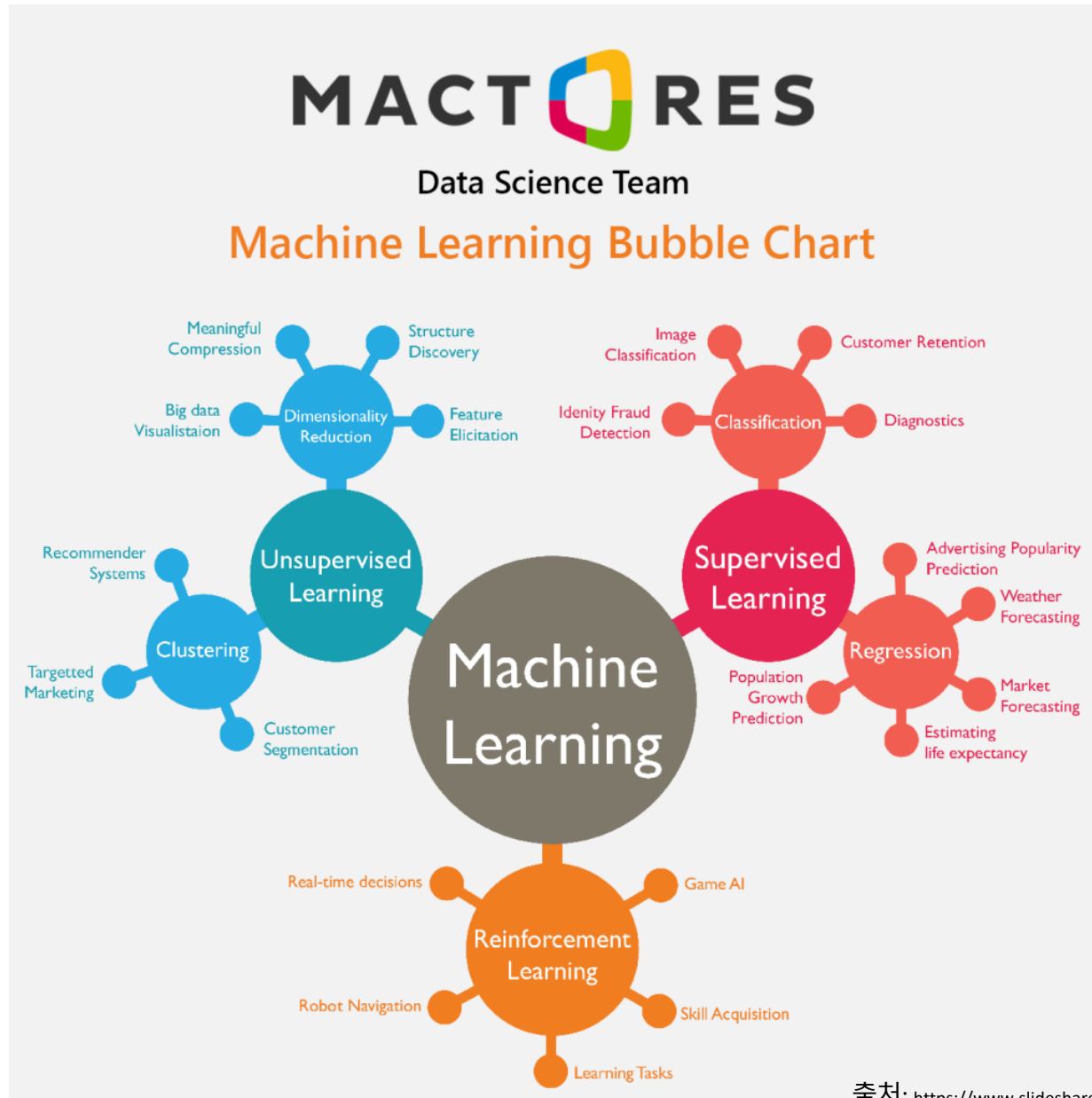
사람이 찾아서
기계한테 알려줌

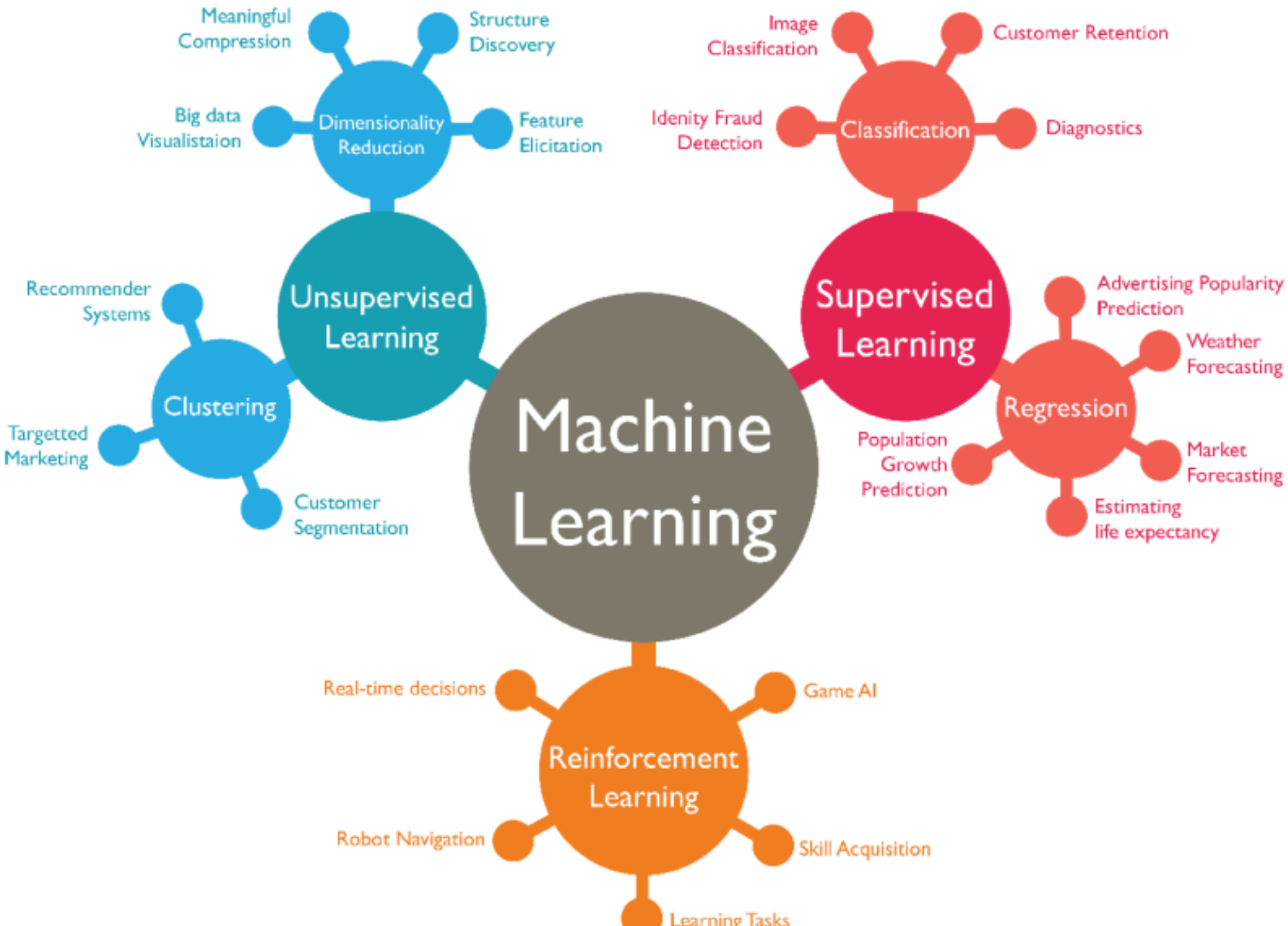
일반적인
컴퓨터 사이언스

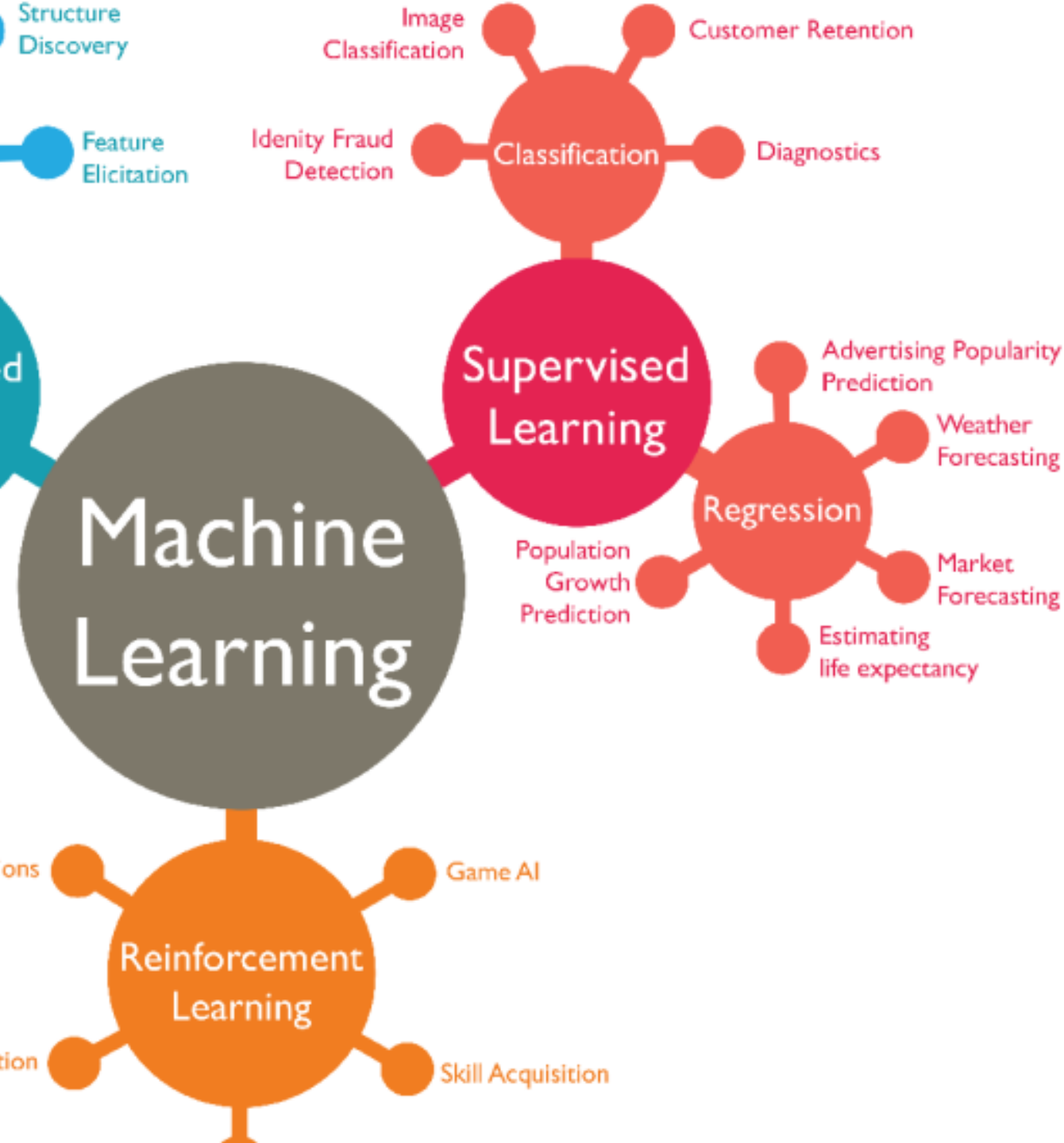


데이터 많이 주고
기계한테
직접 찾게함

02 Machine Learning algorithm





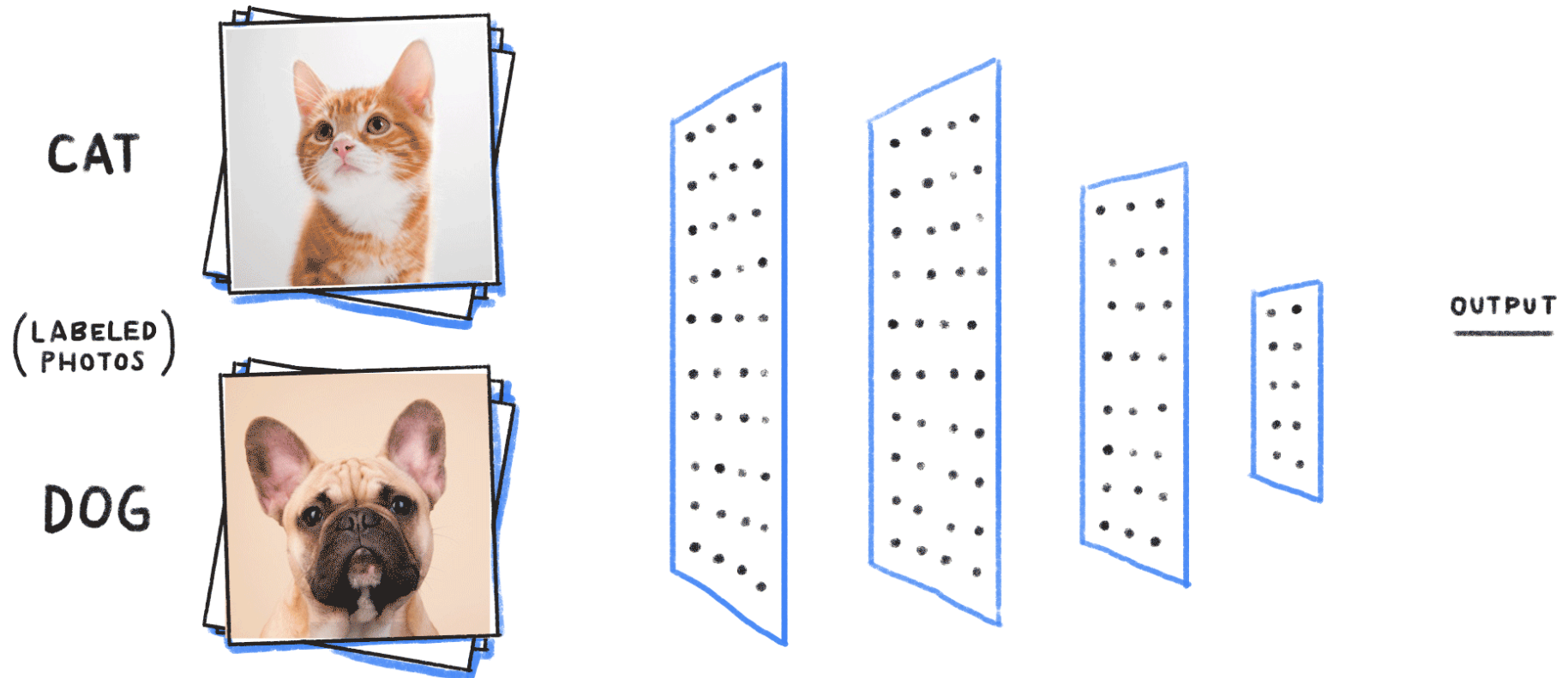


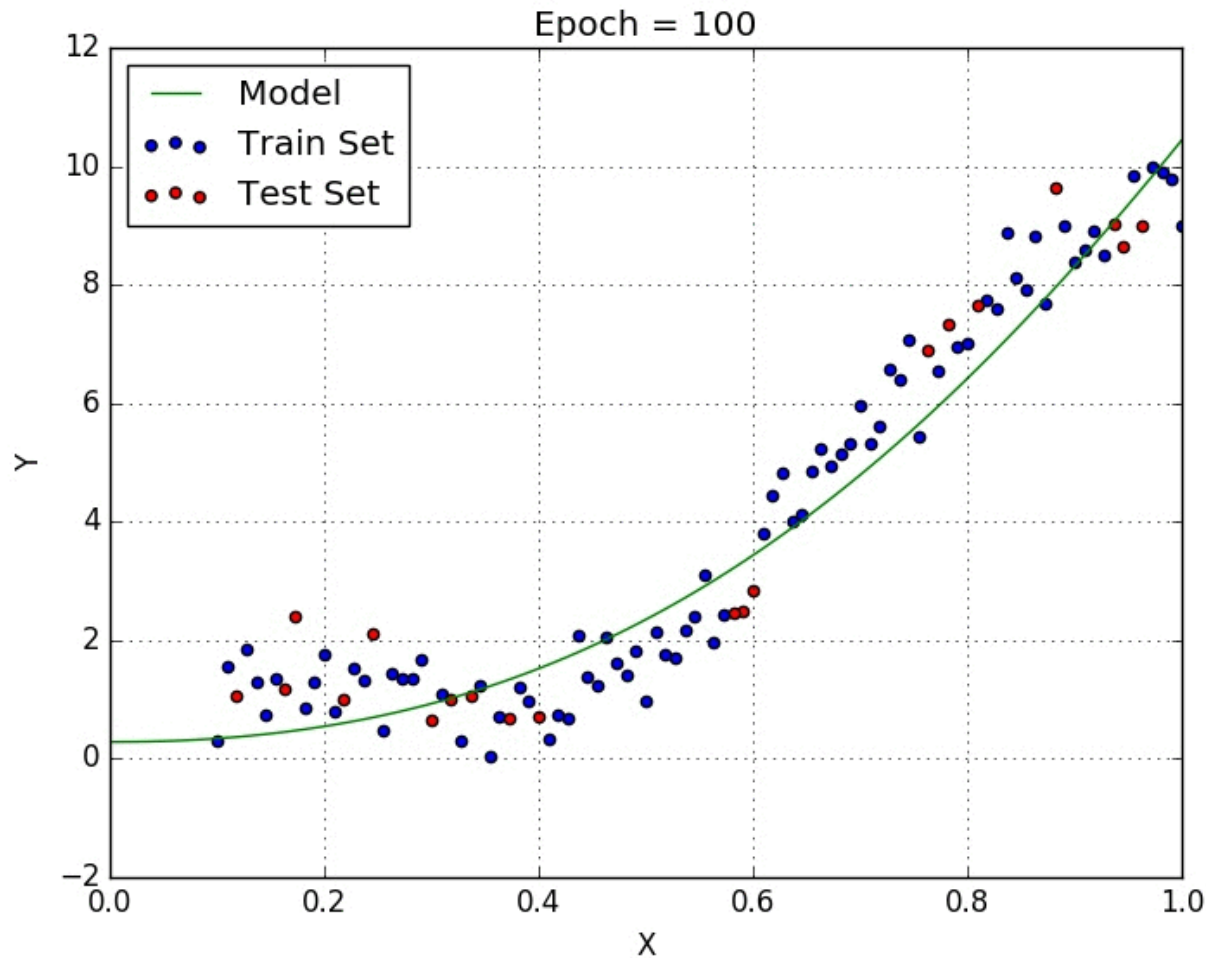
□ Supervised Learning
(지도학습, 감독학습)

- 문제와 정답 제공
: Feature & Label

- 예측, 추정, 분류

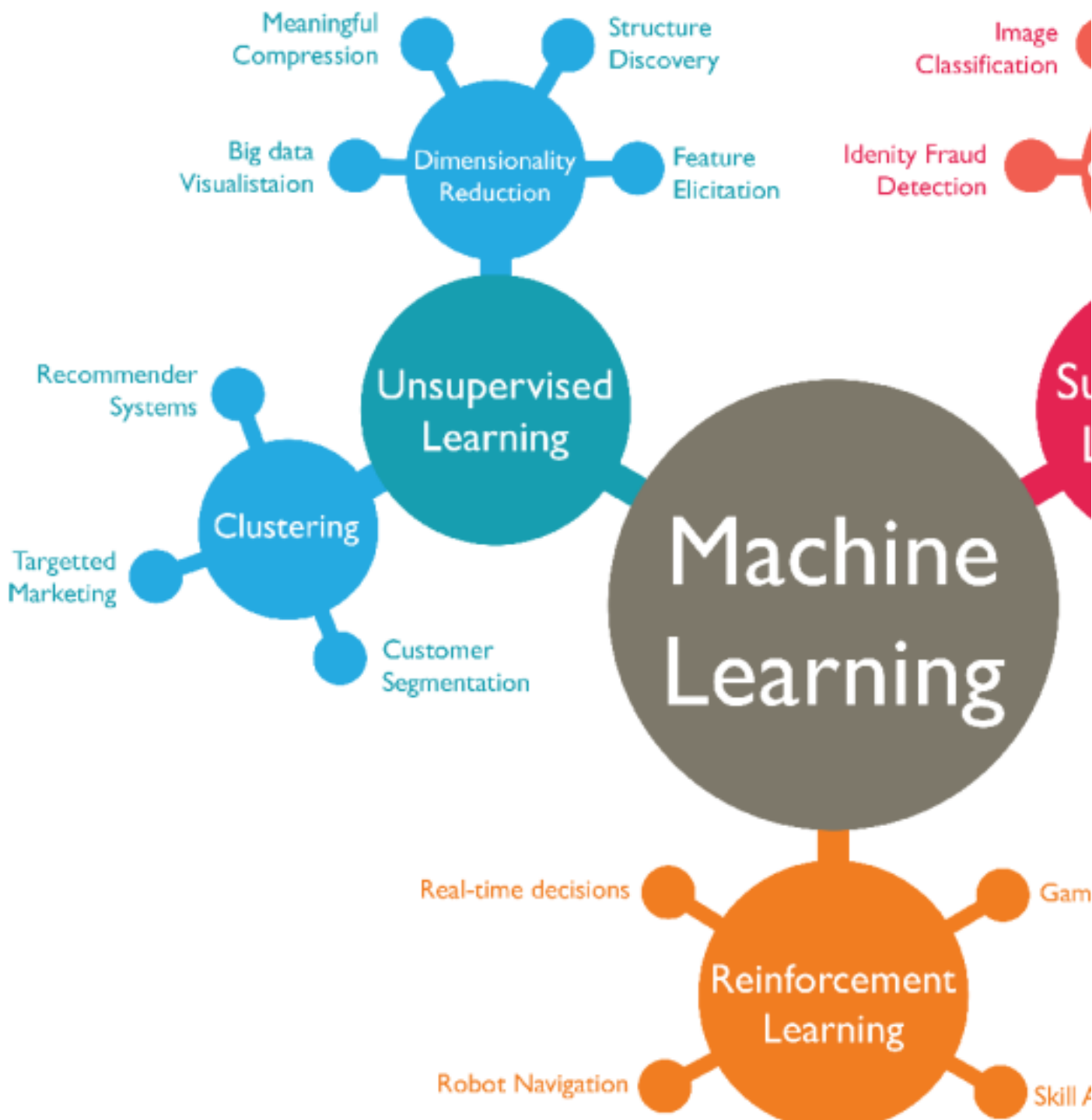
- Regression
- Forecast
- Classification





키에 따른 신발 사이즈
시간에 따른 커피 소비량
햇빛 노출 시간과 주근깨 개수
달 위상에 따른 주요 도시의 범죄 소
기온과 인터넷 쇼핑 장바구니 물품 수

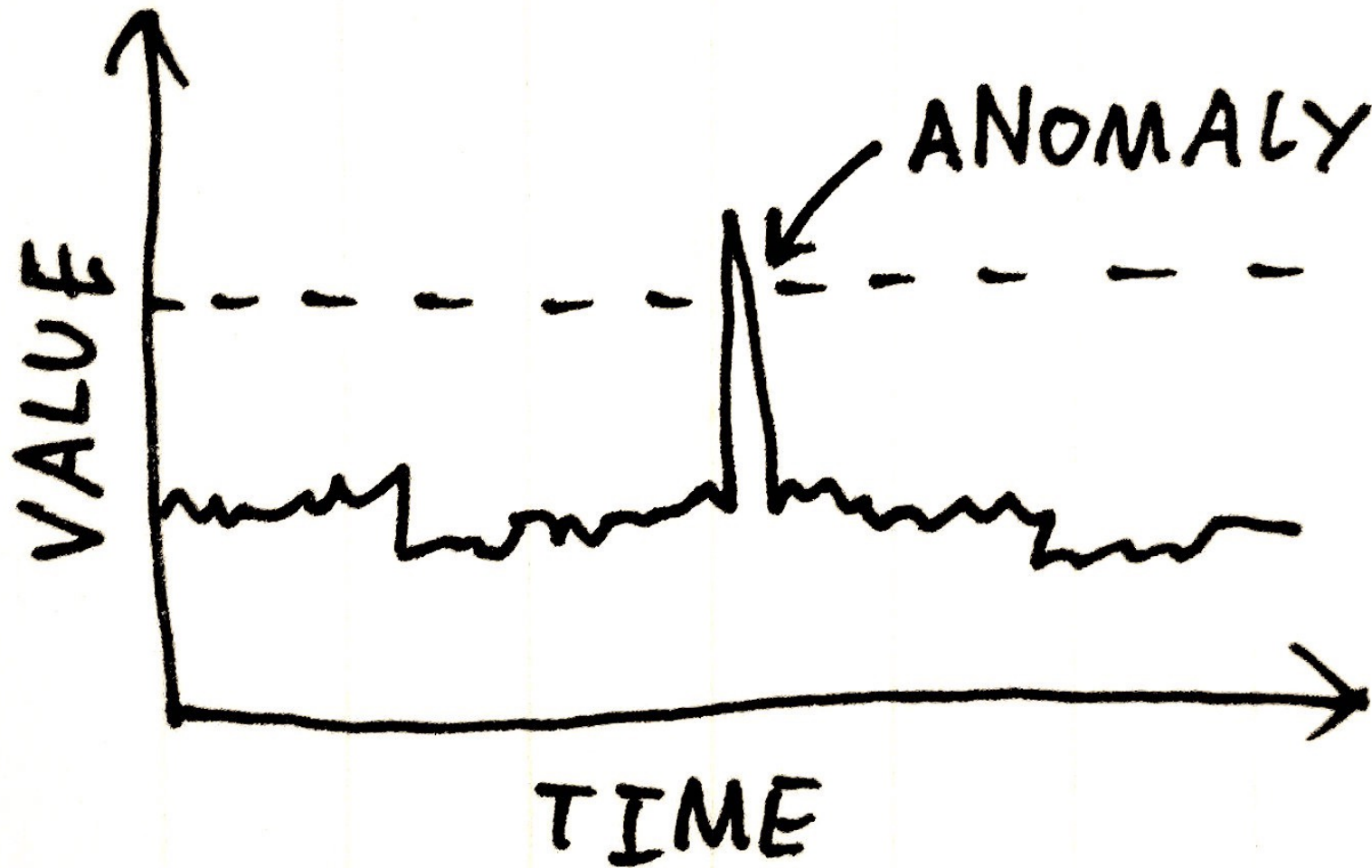
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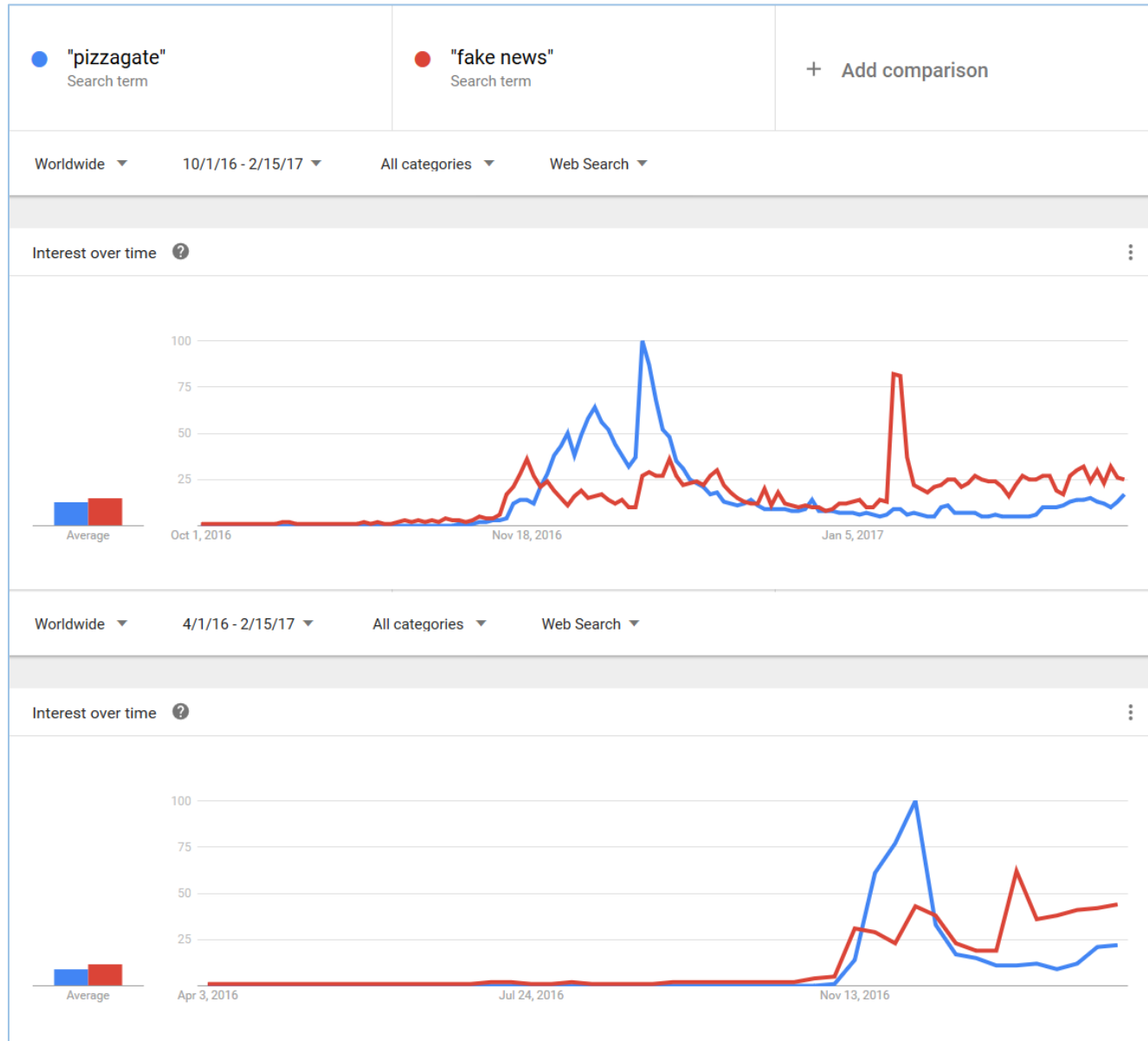


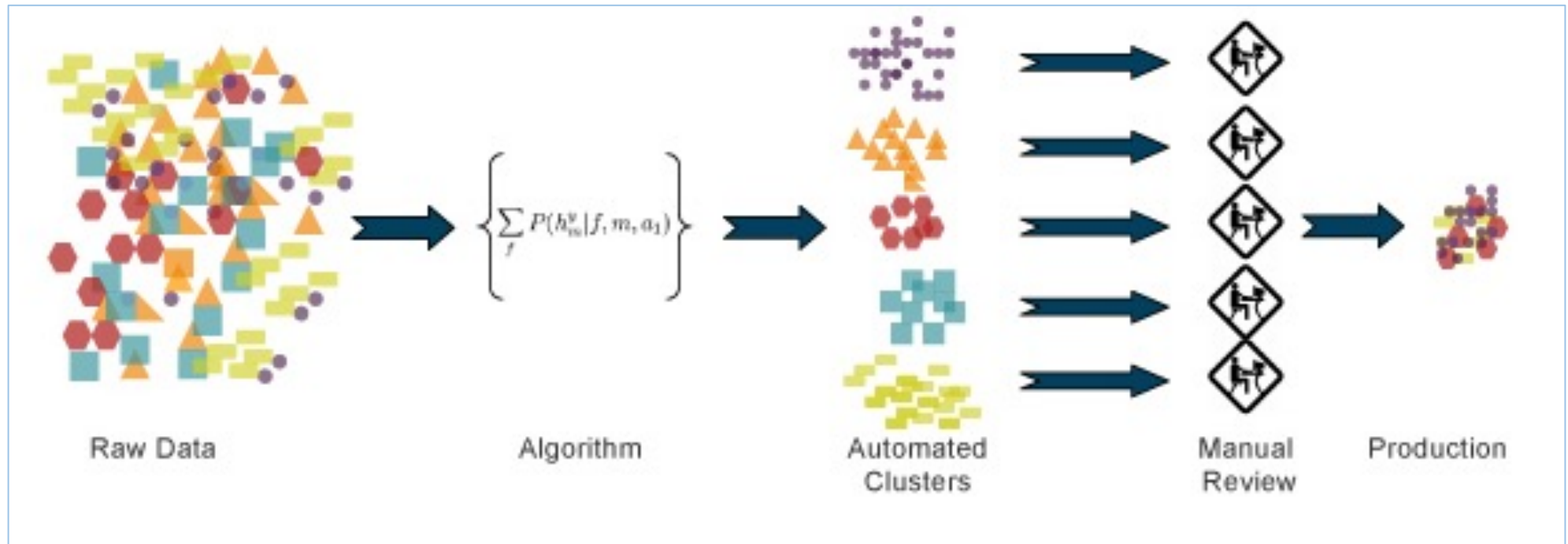
□ Unsupervised Learning (비지도학습)

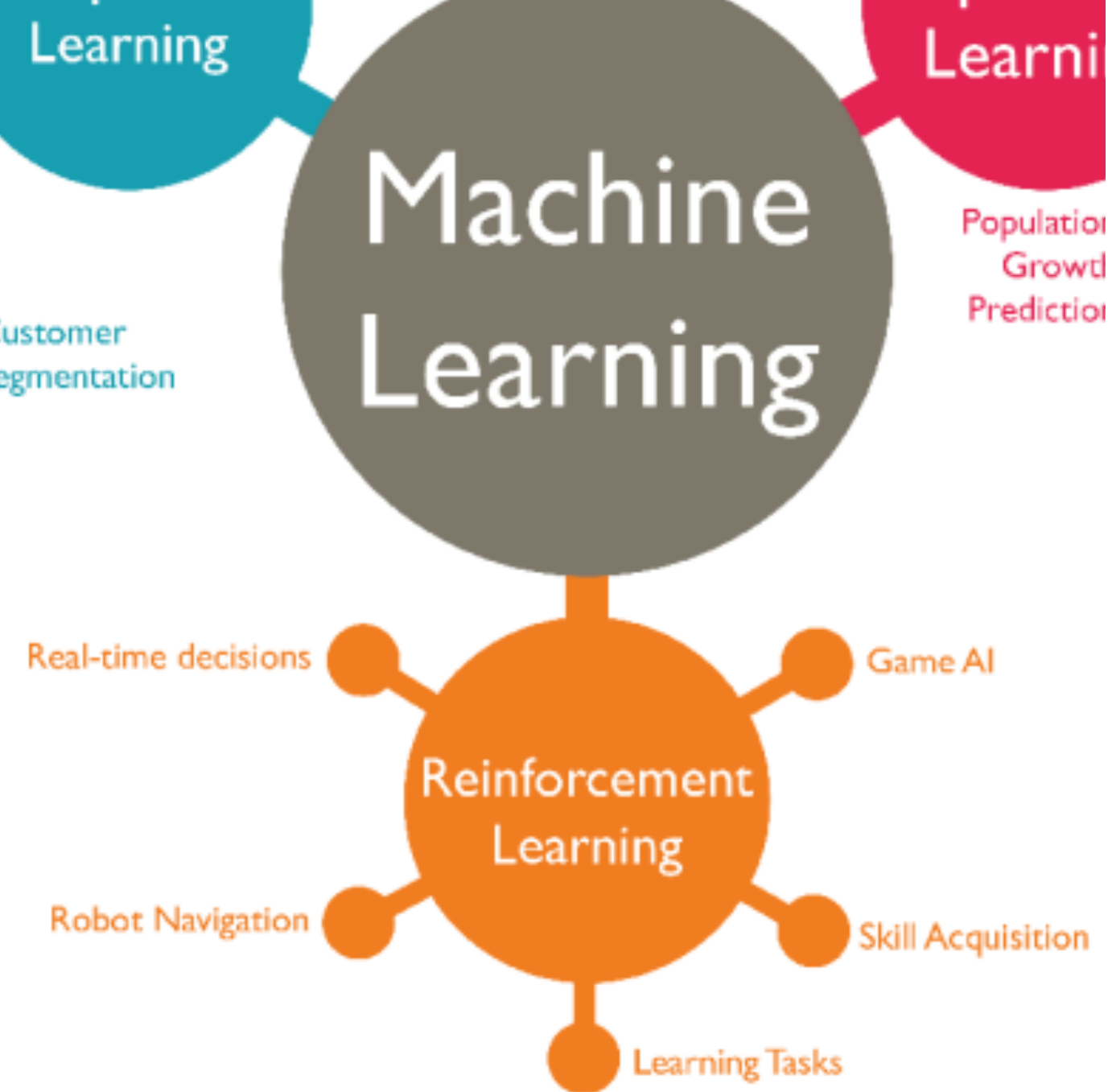
- 문제만 제공
: Feature

- 패턴/구조 발견
그룹화
· Anomaly
· Clustering





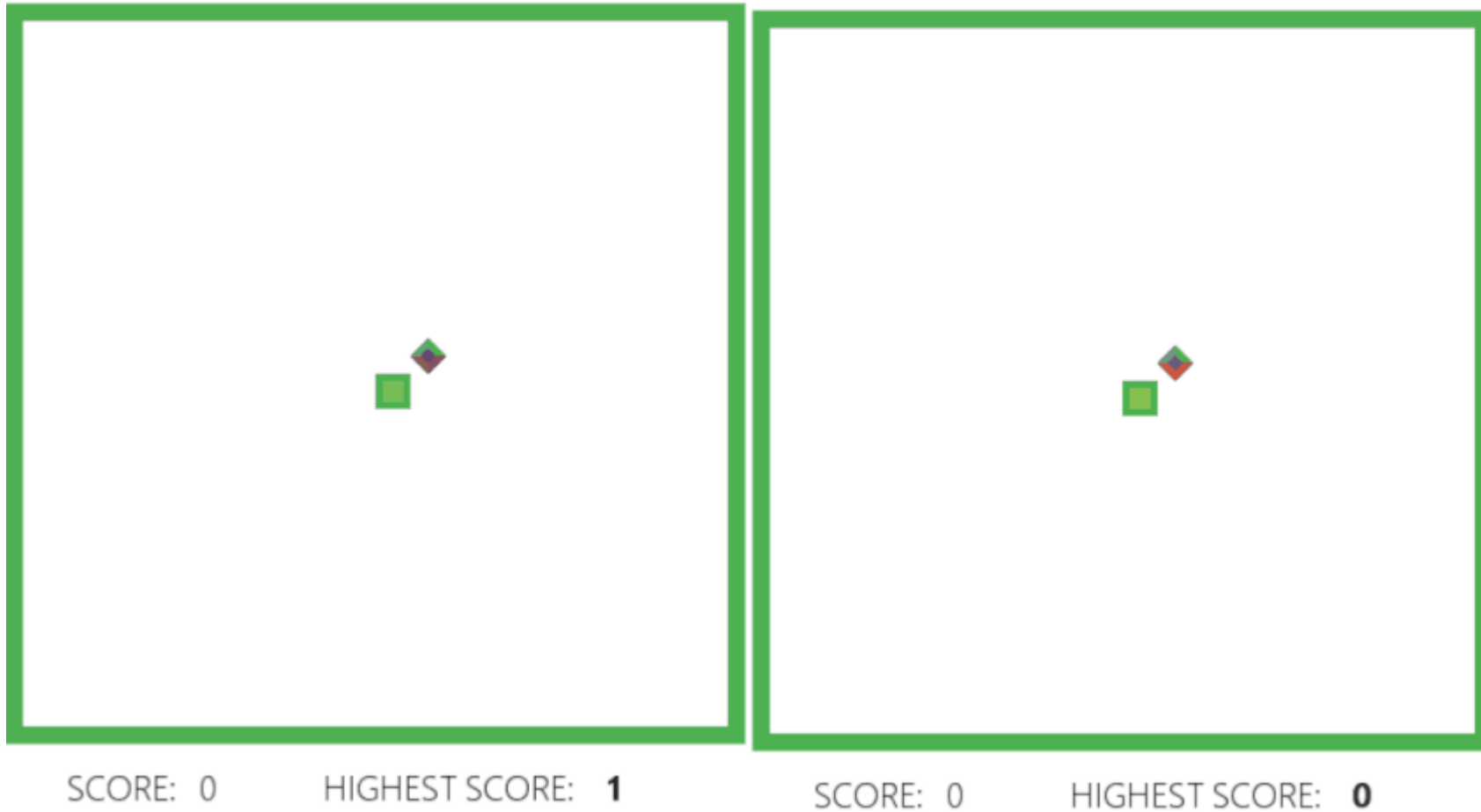




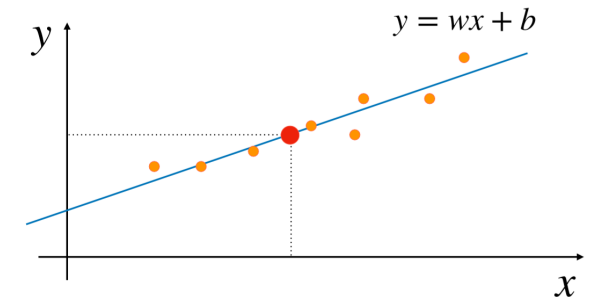
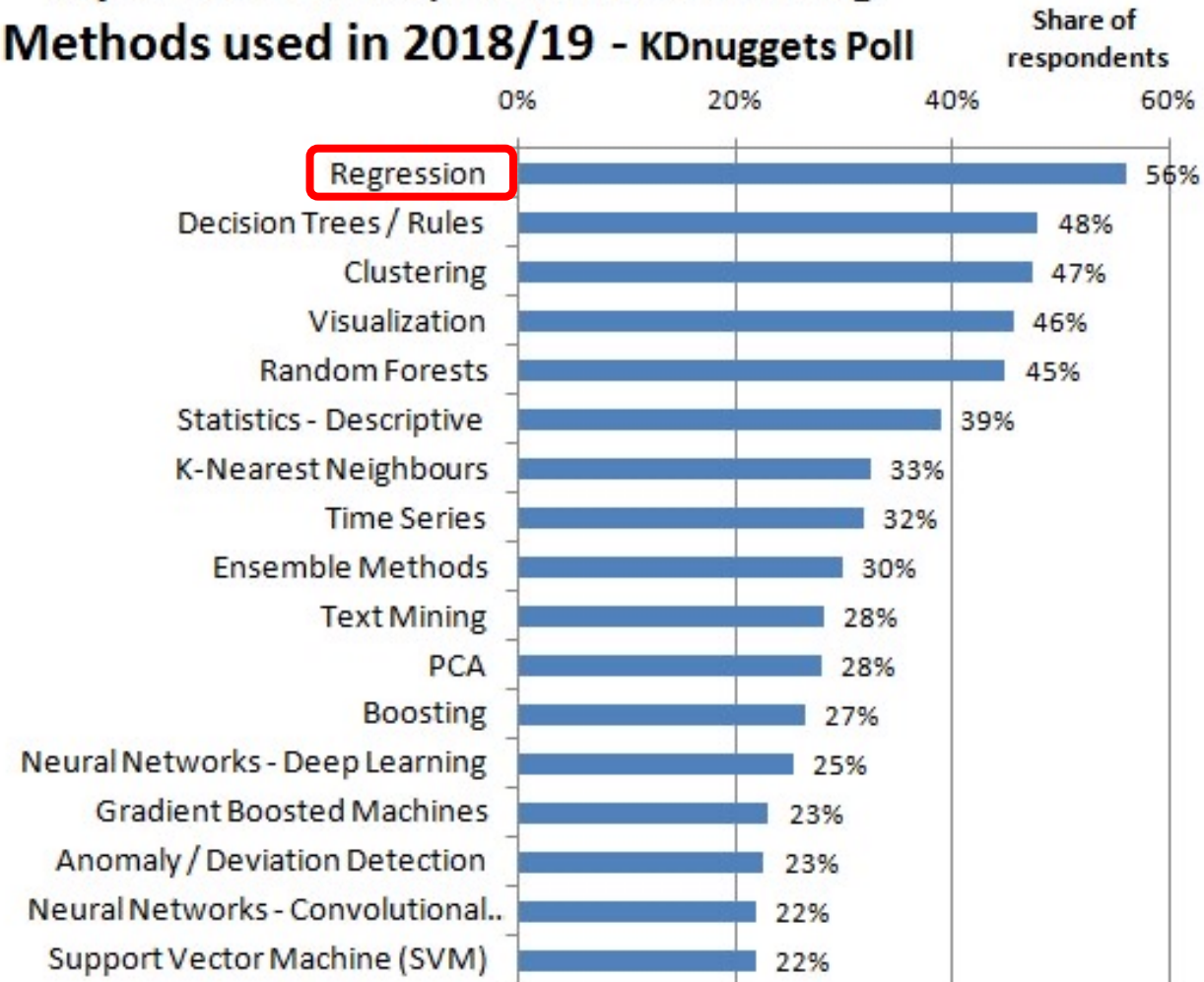
□ Reinforcement Learning
(강화학습)

- 보상(Reward) 제공
인과관계가 중요
게임(알파고), 로봇





Top Data Science, Machine Learning Methods used in 2018/19 - KDnuggets Poll



Summary

What is the Machine Learning

- 1** Machine Learning 은 AI, Machine Learning 그리고 Deep Learning으로 발전됨
- 2** Machine Learning은 지도학습, 비지도학습 그리고 강화학습 등으로 나누어 짐
- 3** 알고리즘의 종류 : Regression, Classification, Anomaly, Clustering 등

감사합니다.