ChatGPT의 이해

- crash course -

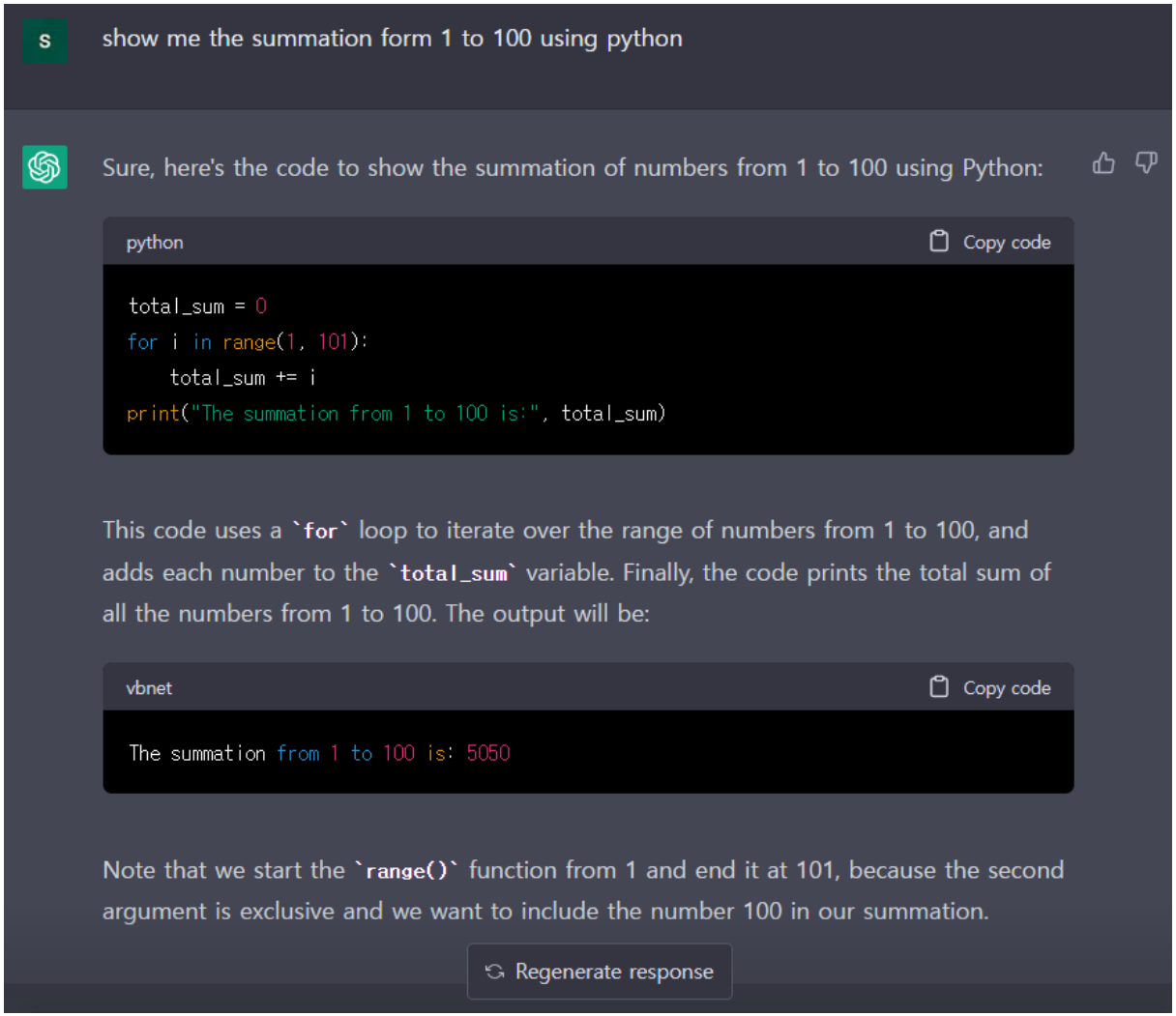
2023년도 1학기

조상구

실제 활용사례

https://www.youtube.com/watch?v=rJU54l6-VTk

ChatGPT에게 1부터 100까지 합산 프로그램 시키기(Python)



S show me the summation form 1 to 100 using python

Sure, here's the code to show the summation of numbers from 1 to 100 using Python:

python Copy code

```
total_sum = 0
for i in range(1, 101):
    total_sum += i
print("The summation from 1 to 100 is:", total_sum)
```

This code uses a `for` loop to iterate over the range of numbers from 1 to 100, and adds each number to the `total_sum` variable. Finally, the code prints the total sum of all the numbers from 1 to 100. The output will be:

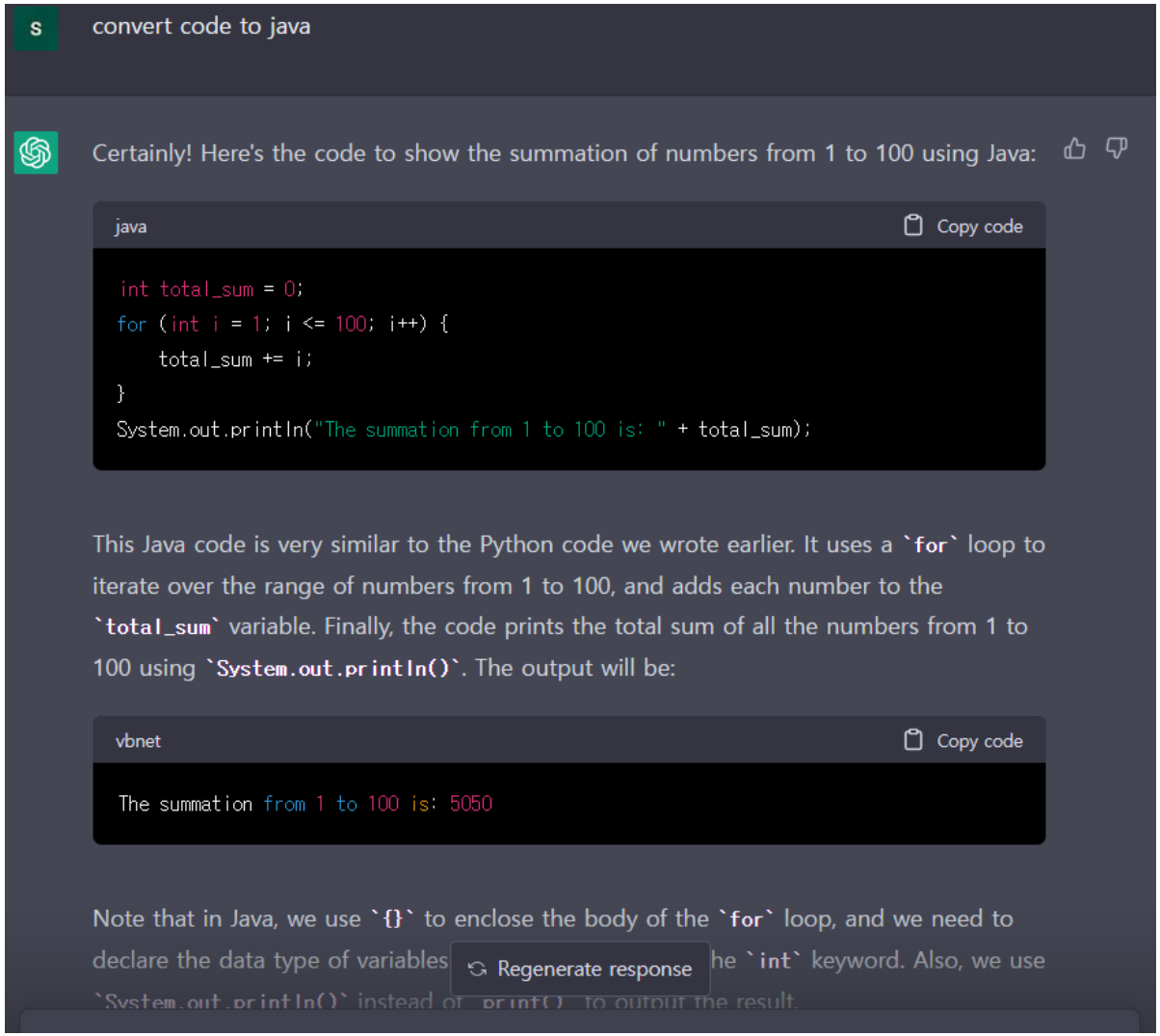
vbnet Copy code

```
The summation from 1 to 100 is: 5050
```

Note that we start the `range()` function from 1 and end it at 101, because the second argument is exclusive and we want to include the number 100 in our summation.

Regenerate response

ChatGPT에게 1부터 100까지 합산 프로그램 시키기(Java)



S convert code to java

Certainly! Here's the code to show the summation of numbers from 1 to 100 using Java:

java Copy code

```java
int total_sum = 0;
for (int i = 1; i <= 100; i++) {
    total_sum += i;
}
System.out.println("The summation from 1 to 100 is: " + total_sum);
```

This Java code is very similar to the Python code we wrote earlier. It uses a `for` loop to iterate over the range of numbers from 1 to 100, and adds each number to the `total_sum` variable. Finally, the code prints the total sum of all the numbers from 1 to 100 using `System.out.println()`. The output will be:

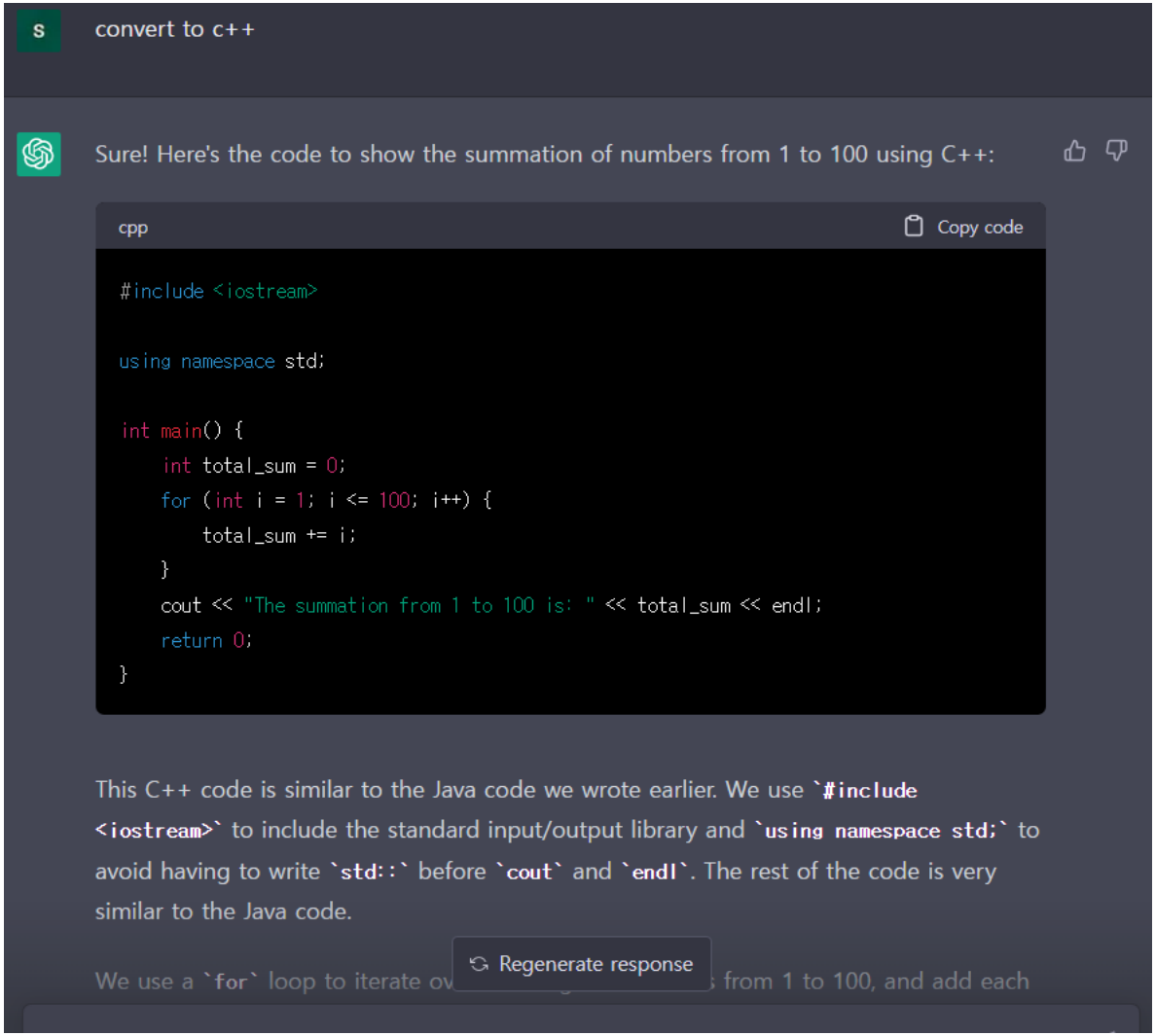
vbnet Copy code

```vbnet
The summation from 1 to 100 is: 5050
```

Note that in Java, we use `{}` to enclose the body of the `for` loop, and we need to declare the data type of variables he `int` keyword. Also, we use `System.out.println()` instead of `print()` to output the result.

Regenerate response

ChatGPT에게 1부터 100까지 합산 프로그램 시키기(C++)

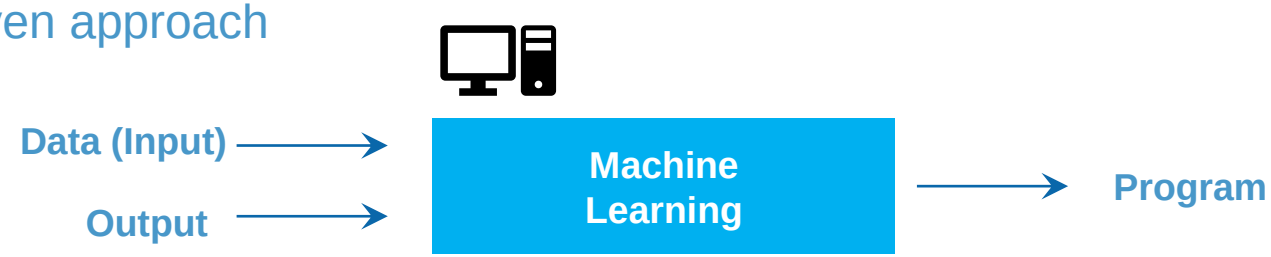


Machine learning

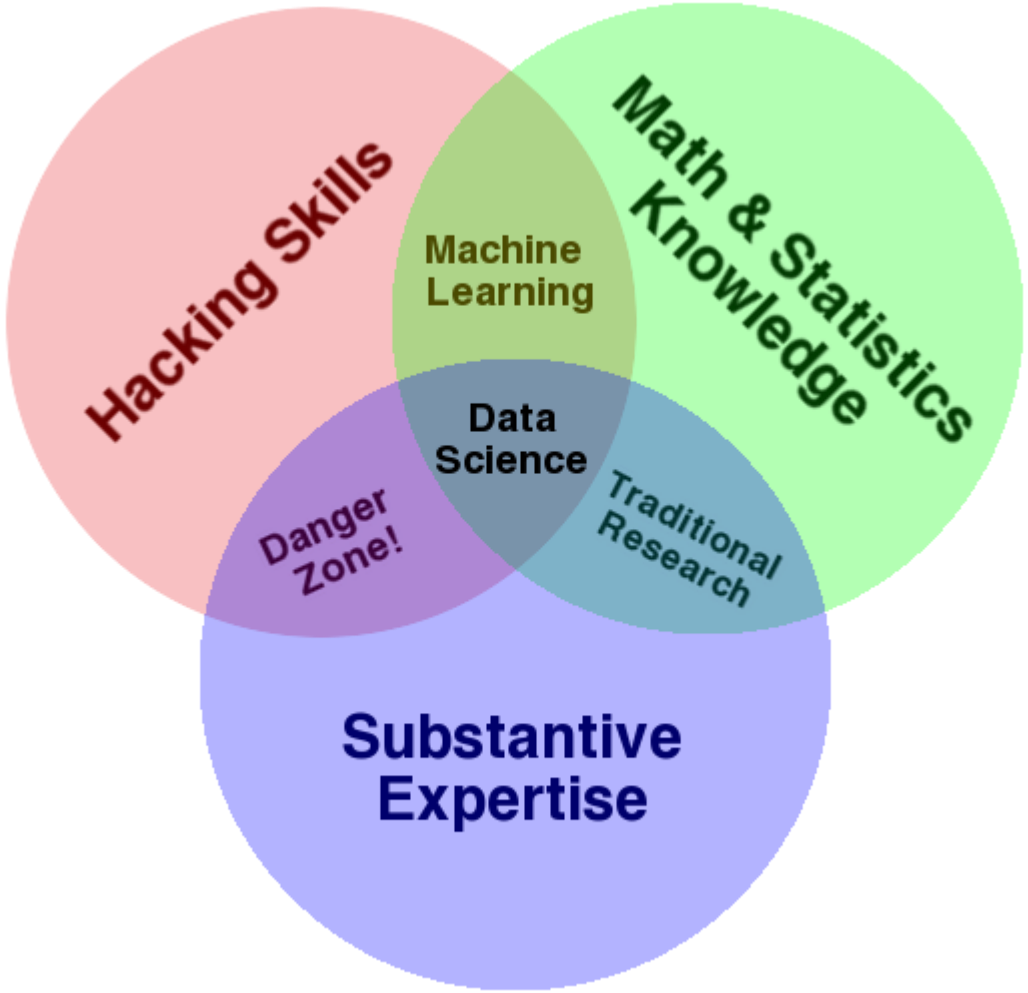
과거 데이터를 바탕으로 컴퓨터에게 학습을 시켜 데이터의 패턴을 발견하여 한번도 보지 못한 새로운 데이터를 예측하게 하는 것(분별, 회귀생성, 클러스터링)

- Rule based approach

- Data driven approach



데이터 사이언스

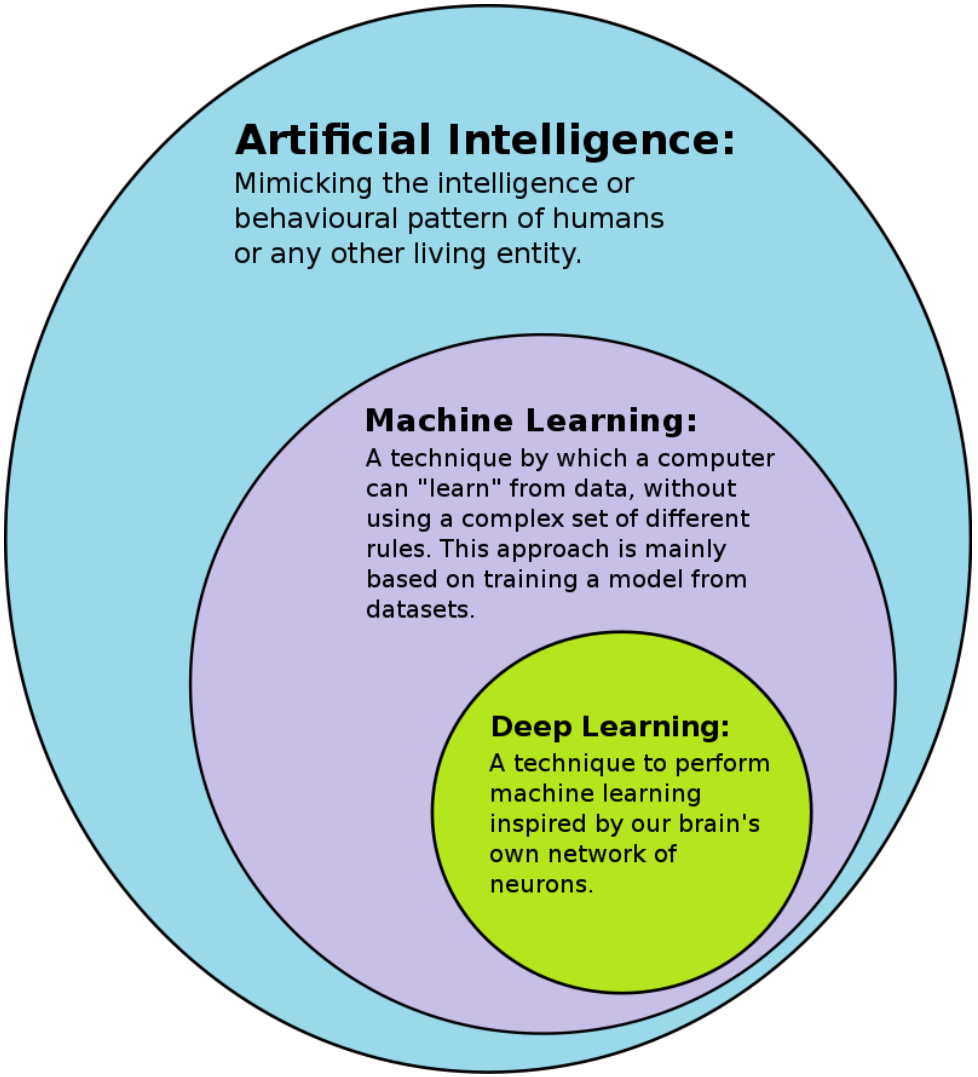


Job careers

- 데이터 분석가
- 데이터 엔지니어
- 데이터 사이언티스트
- 머신러닝 전문가
- 딥러닝 전문가
- 자율주행 전문가
- 컴퓨터 비젼 전문가

http://drewconway.com/zia/2013/3/26/the-data-science-venn-diagram

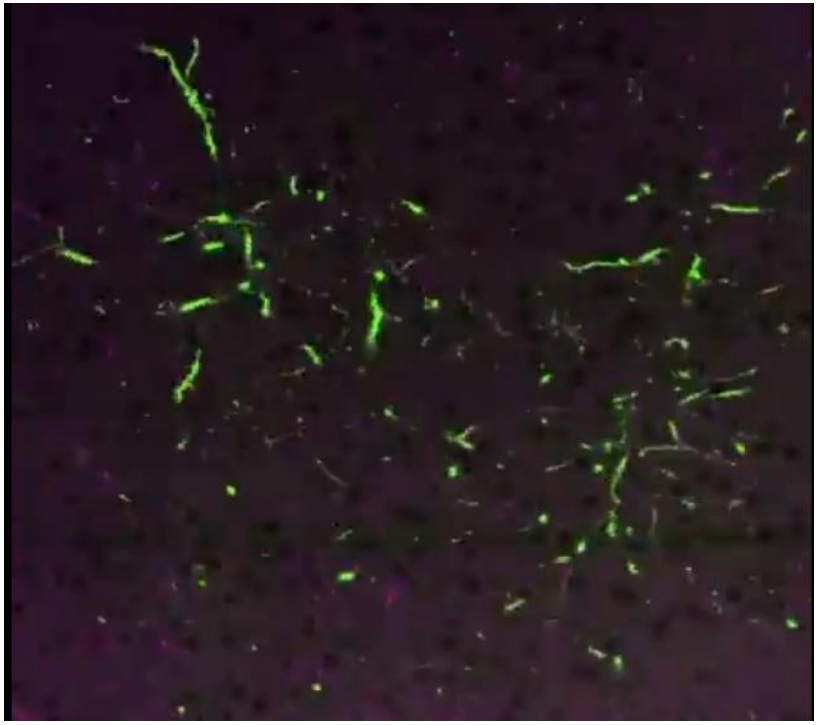
Deep learning

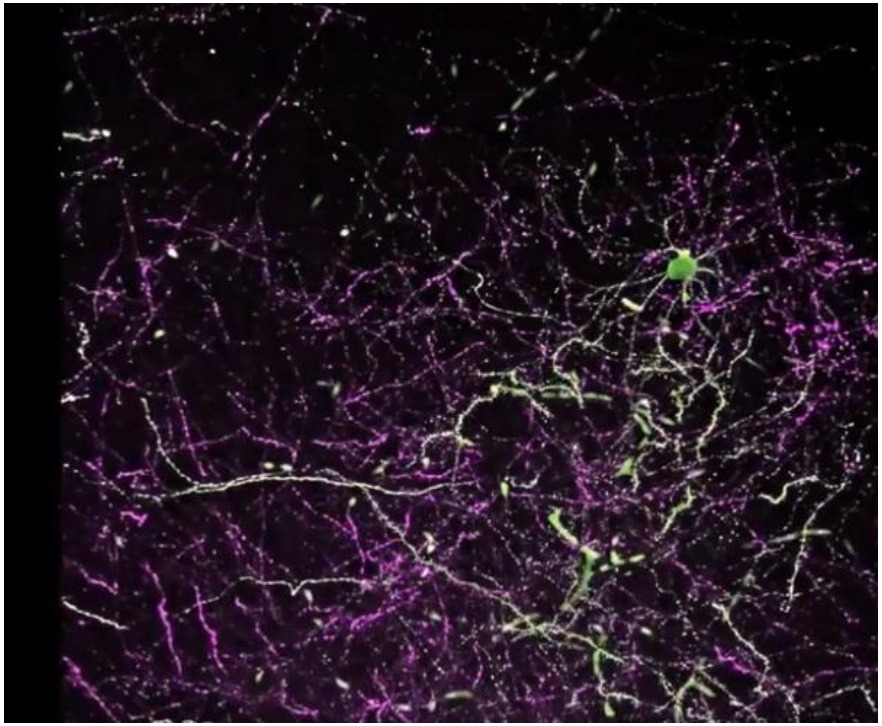


- Deep learning?
- Shallow learning?

https://en.wikipedia.org/wiki/Deep_learning

뇌세포 뉴런(Neuron)의 인지 메커니즘 시각화

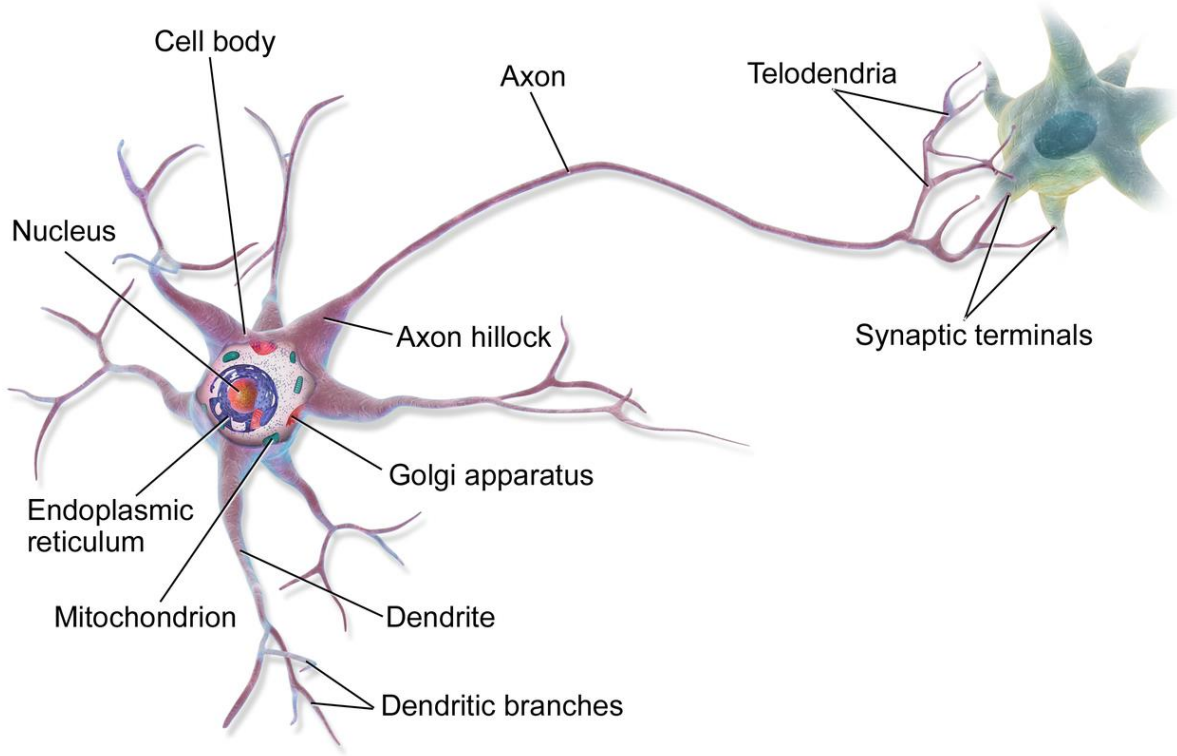




https://www.facebook.com/groups/DeepNetGroup/permalink/893604324365784/?ref=share&mibextid=NnVzG8&_rdr

뉴론

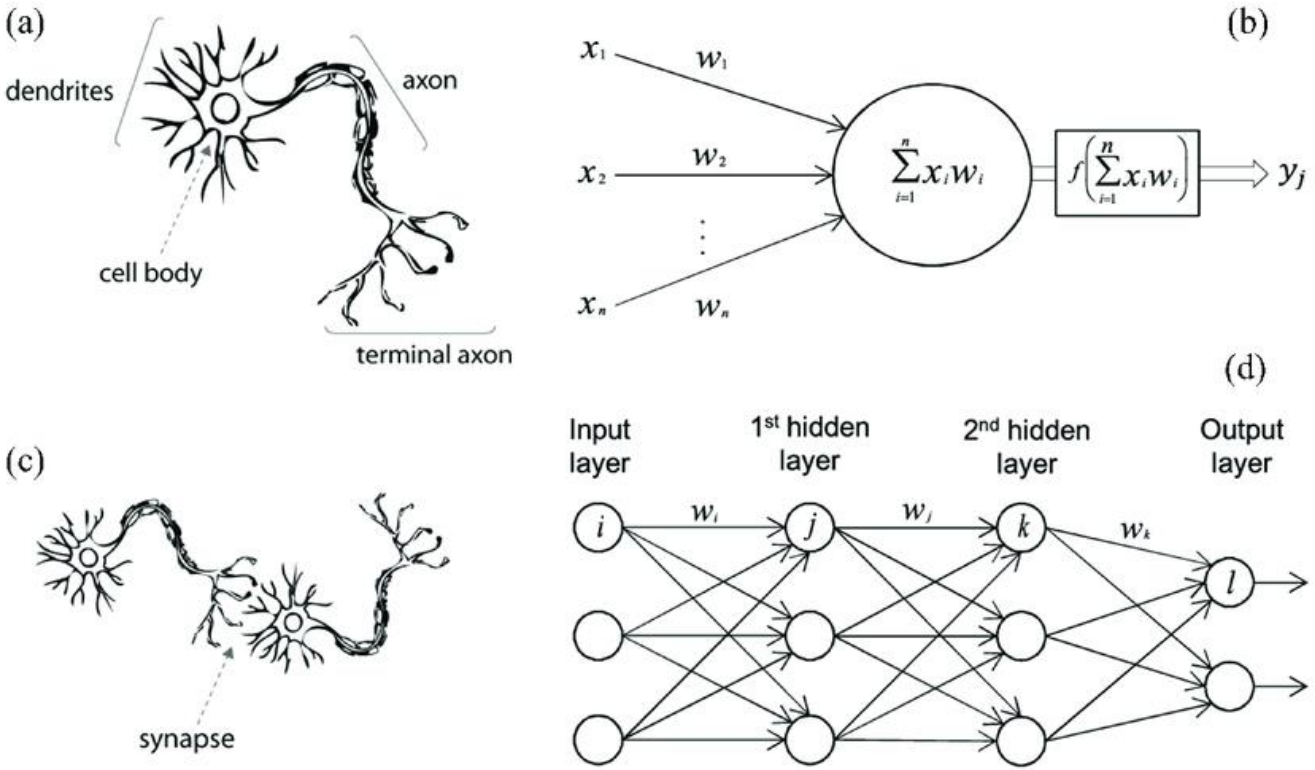
- 인간의 뉴런과 축삭돌기



https://en.wikipedia.org/wiki/Neuron#/media/File:Blausen_0657_MultipolarNeuron.png

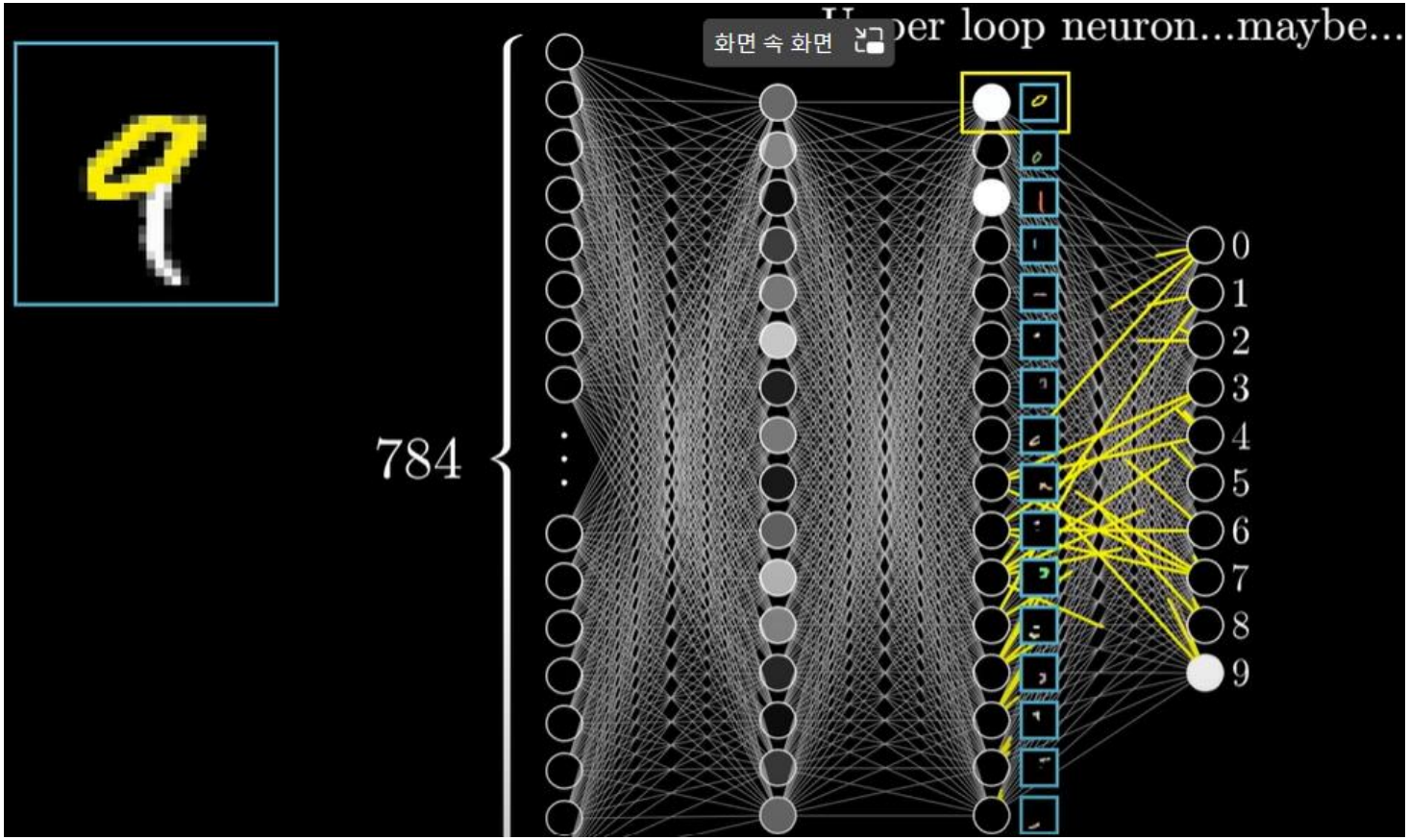
인공 뉴론

- 인간의 뉴런과 축삭 돌기를 모방한 인공신경망 구조(perceptron)
- A biological neuron in comparison to an artificial neural network: (a) human neuron; (b) artificial neuron; (c) biological synapse; and (d) ANN synapses



https://www.researchgate.net/figure/A-biological-neuron-in-comparison-to-an-artificial-neural-network-a-human-neuron-b_fig2_339446790

Deep Neural Network(심층심화 네트웍) 작동 방식

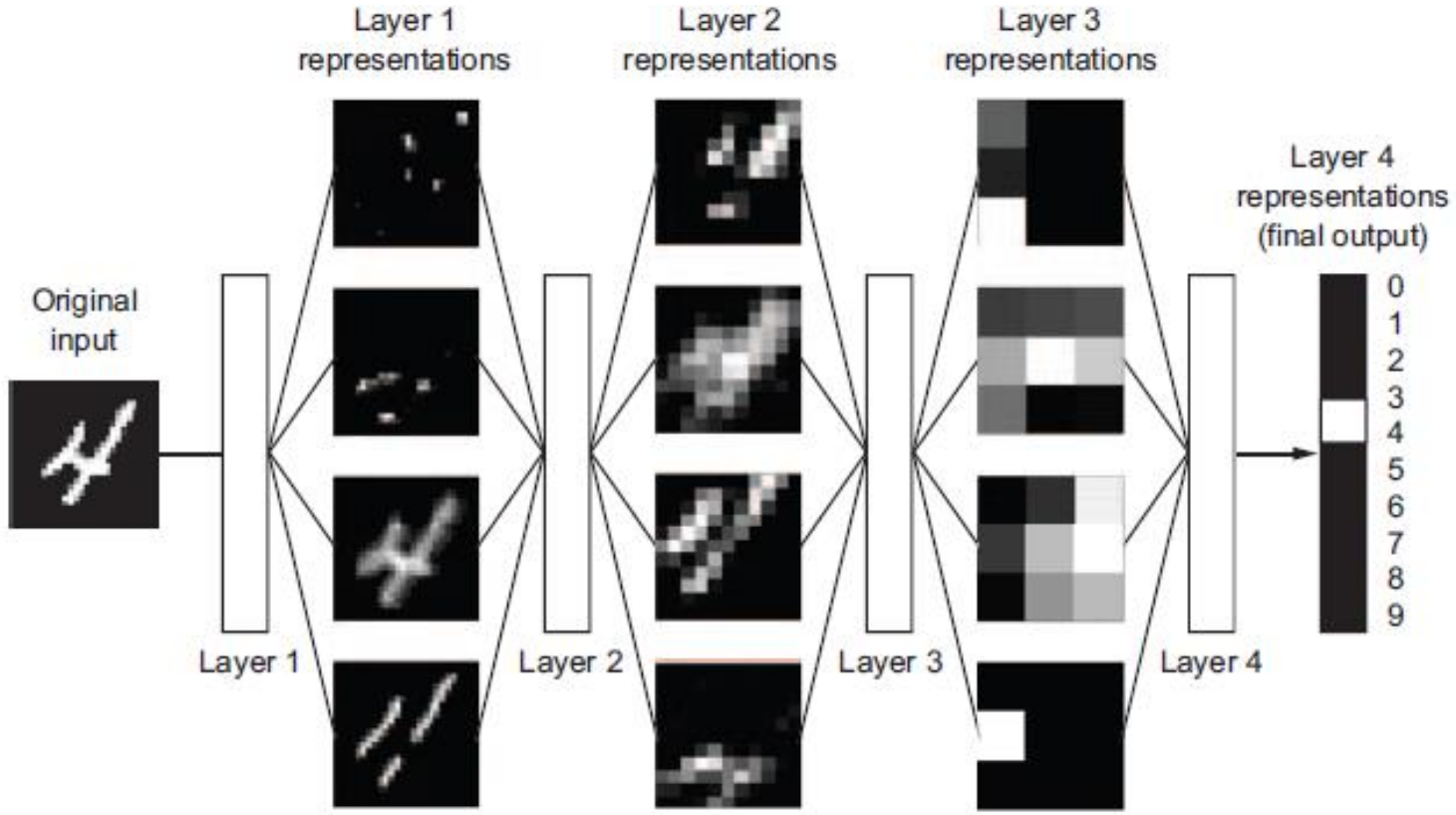


[(67) But what is a neural network? | Chapter 1, Deep learning - YouTube](https://www.youtube.com/watch?v=Ilg3gGewQ5U&t=566s)

https://www.youtube.com/watch?v=Ilg3gGewQ5U&t=566s

A deep representation(숫자 분류 모델)

- 딥러닝 네트워크는 여러 층(layers)에 따라 숫자 이미지를 표현(representation)으로 변환
- 다단계로 확인하면 원본 이미지가 연속적인 필터를 거쳐 증류 작업처럼 점점 더 정제(purification)

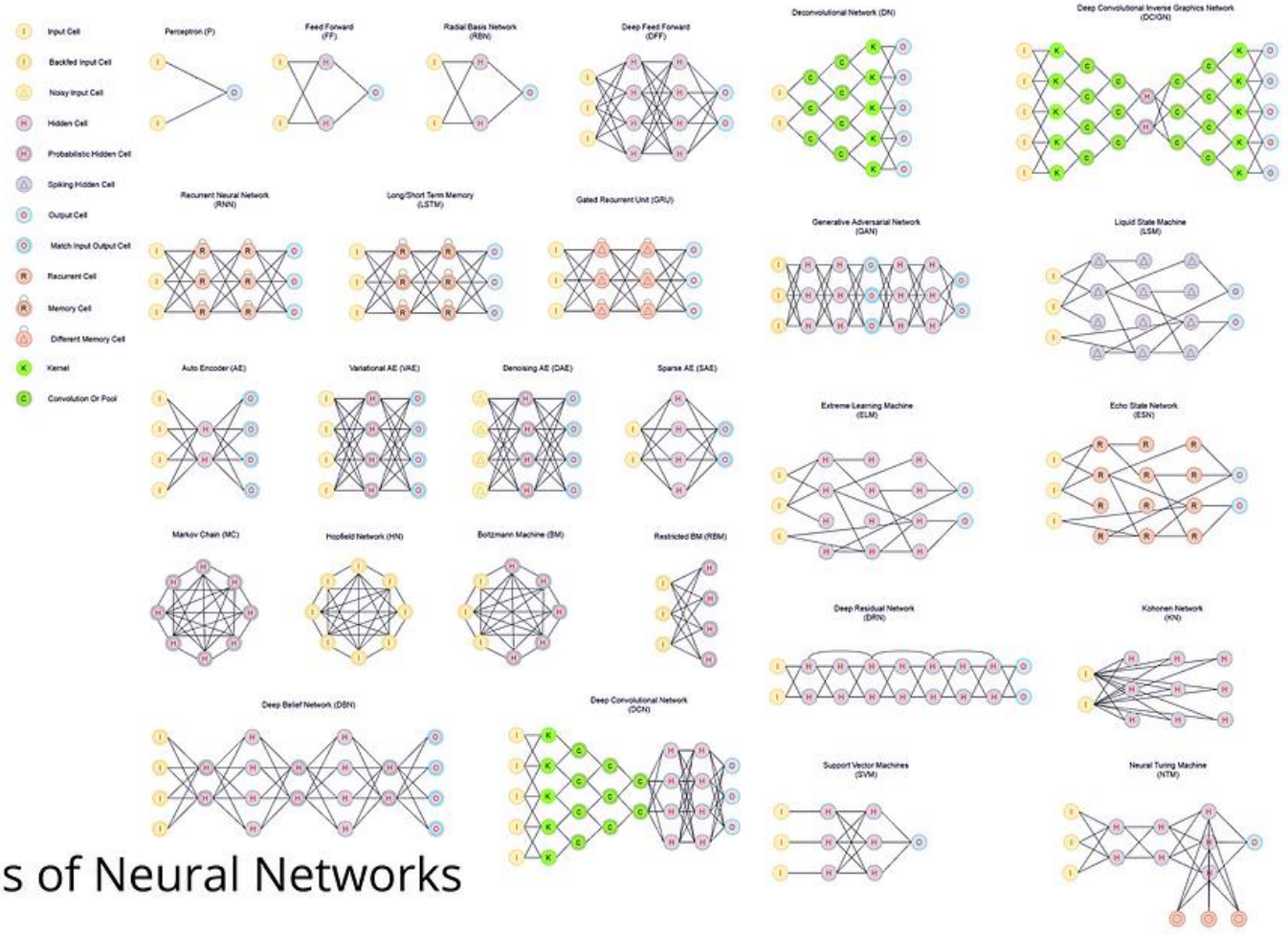


Source : Deep Learning with Python, Francois Chollet, O'RELLY

다양한 종류의 인공신경망

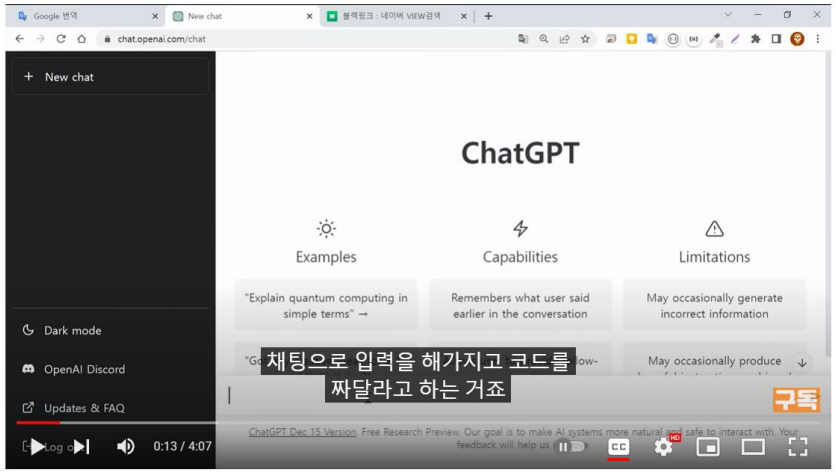
Input

- 언어
- 이미지
- 사운드



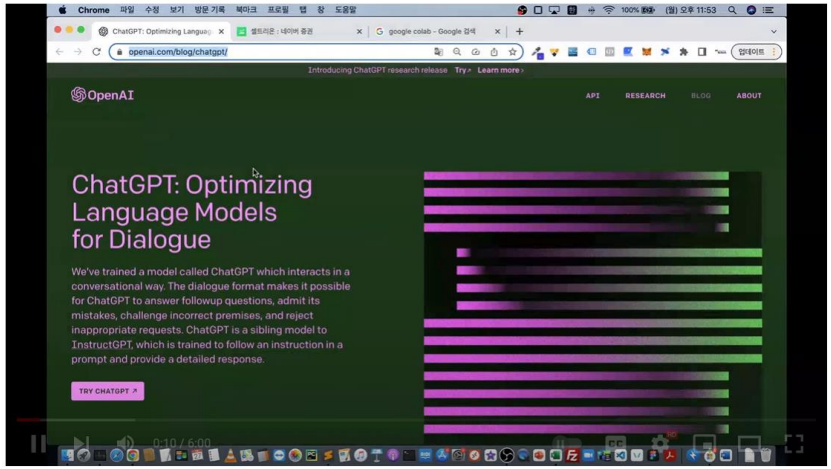
Main Types of Neural Networks

ChatGPT에게 코딩 시키기



chatGPT에게 네이버 크롤링 파이썬 코드를 짜달라고 시켜봤습니다.

https://www.youtube.com/watch?v=eap62CrRtgg



ChatGPT로 주식정보 크롤링하기 (Python 코드 자동 생성) - 1. 네이버 증권 크롤링

https://www.youtube.com/watch?v=kvFrYLgglEk

Chat-GPT(Generative Pre-trained Transformer)

- 자연어처리에 적합한 딥러닝 알고리즘인 Transformer 알고리즘을 기반으로 사전에 학습한 (Pre-Trained) 생성형(Generative) 대화형(Chat) 인공지능 모형

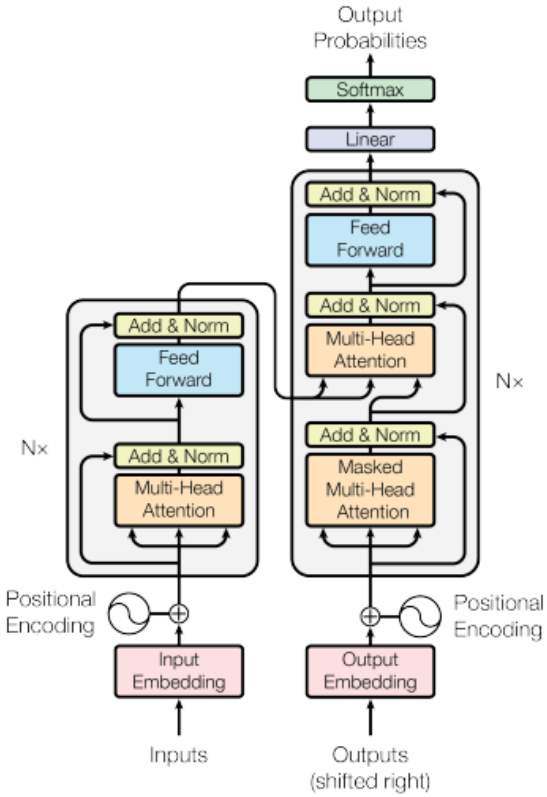


Figure 1: The Transformer - model architecture.

Attention Is All You Need

Ashish Vaswani* Google Brain avaswani@google.com
Noam Shazeer* Google Brain noam@google.com
Niki Parmar* Google Research nikip@google.com
Jakob Uszkoreit* Google Research usz@google.com
Llion Jones* Google Research llion@google.com
Aidan N. Gomez* † University of Toronto aidan@cs.toronto.edu
Łukasz Kaiser* Google Brain lukaszkaiser@google.com
Illia Polosukhin* ‡ illia.polosukhin@gmail.com

Abstract

The dominant sequence transduction models are based on complex recurrent or convolutional neural networks that include an encoder and a decoder. The best performing models also connect the encoder and decoder through an attention mechanism. We propose a new simple network architecture, the Transformer, based solely on attention mechanisms, dispensing with recurrence and convolutions entirely. Experiments on two machine translation tasks show these models to be superior in quality while being more parallelizable and requiring significantly less time to train. Our model achieves 28.4 BLEU on the WMT 2014 English-to-German translation task, improving over the existing best results, including ensembles, by over 2 BLEU. On the WMT 2014 English-to-French translation task, our model establishes a new single-model state-of-the-art BLEU score of 41.8 after training for 3.5 days on eight GPUs, a small fraction of the training costs of the best models from the literature. We show that the Transformer generalizes well to other tasks by applying it successfully to English constituency parsing both with large and limited training data.

1 Introduction

ChatGPT, 여러분에게 기회인가 위협인가

https://www.pwc.com/kr/ko/insights/insight-flash/samilpwc_insight-flash_chat-gpt.pdf