

# NLP with Deep Learning

## Prompt Engineering and Exercise

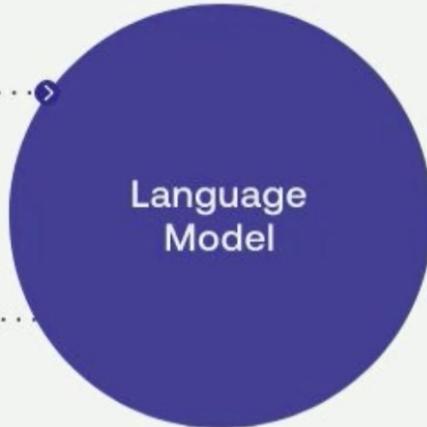


Incheon Paik  
Intelligent Data Analytics Lab.  
University of Aizu

Prompt



Input



Generated Text



Output

Prompt

Task Description

This is a conversation between a customer and a polite, helpful customer service agency.

Input Indicator

Question of the customer

Current Input

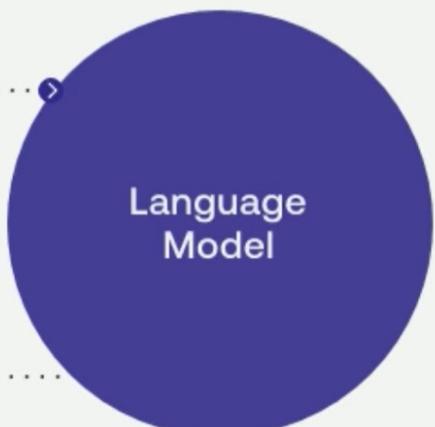
Response from customer service agent:  
Hello, Thank you for reaching out to us.  
A: Yes,

Output Indicator

Completion



Input



Output

# **Basic of Prompt Engineering**

- Detailed and Specific (Clearness and Explicit)
  - More specific and clear query can extract better answer
- Data & In-Context Learning
  - It needs to consider whether the answer exists in the database.
- Algorithm
  - ChatGPT can't answer to complex and long query. The goal should be analyzed and made to be simple by the algorithm.

# Few-Shot Learning

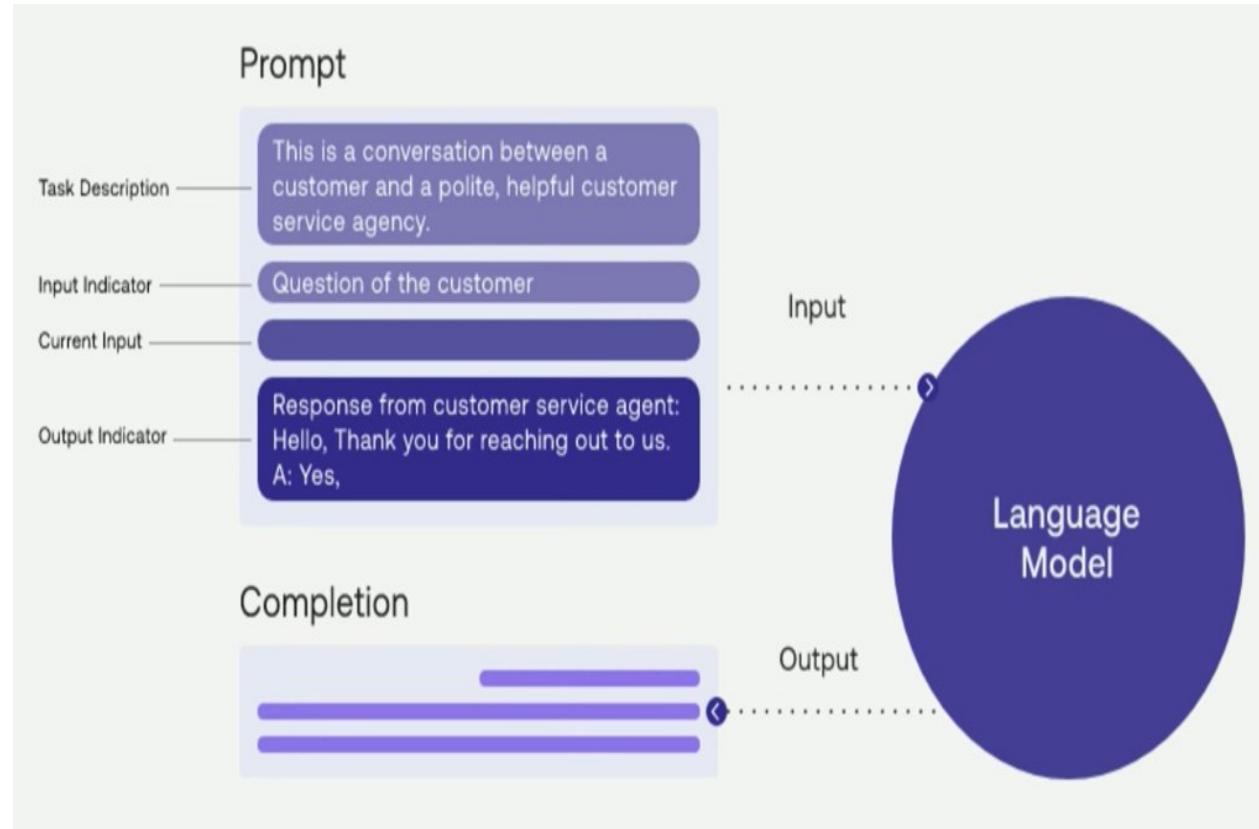
- Learning through examples
  - Zero-shot learning
    - Write a image description with adjectives and nouns of a Female Cyborg walking in a winter landscape in Norway:
  - One-shot learning
    - Write a compressed perfect image description with adjectives and nouns of a Female Cyborg walking in a winter landscape in Norway:
    - **Gorgeous female cyborg, shimmering, sci-fi, armor, strides, snow, trees, banks, frosted, ice, gleaming, metal, blue, optics, robotic, movements, still, pristine, beauty, Nordic, vista –ar 3:2**
    - Write a compressed perfect image description with adjectives and nouns of a Female Cyborg walking in a winter landscape in Norway:

# Few-Shot Learning

## ● Few-shot learning

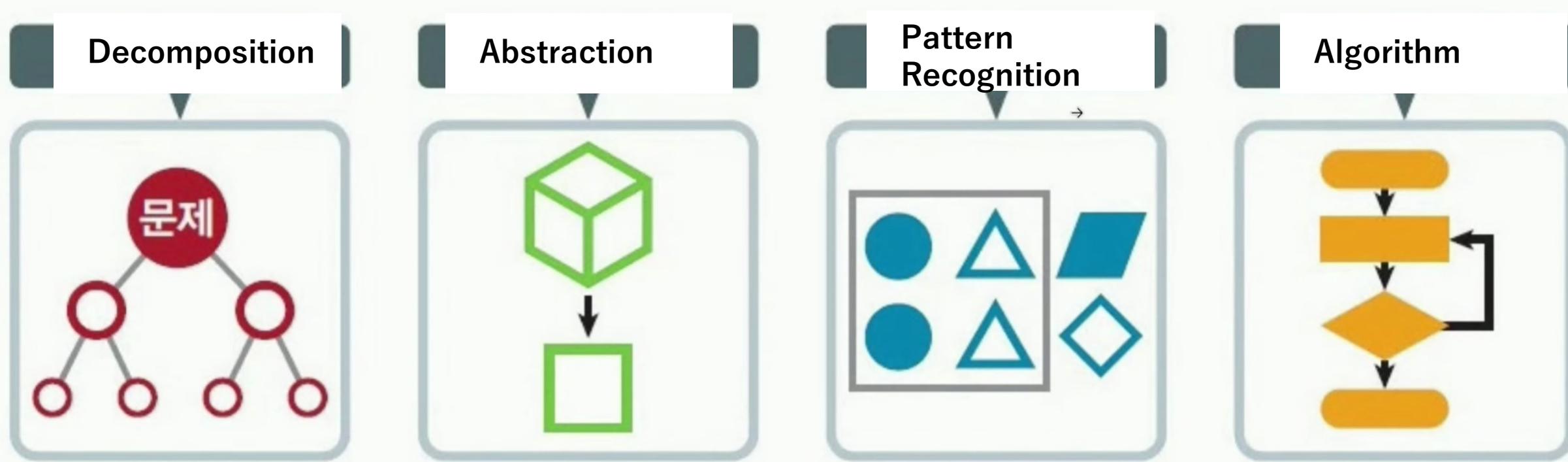
- Write a compressed perfect image description with adjectives and nouns of a Female Cyborg walking in a winter landscape in Norway:
- **Gorgeous female cyborg, shimmering, sci-fi, armor, strides, snow, trees, banks, frosted, ice, gleaming, metal, blue, optics, robotic, movements, still, pristine, beauty, Nordic, vista –ar 3:2**
- Write a compressed perfect image description with adjectives and nouns of a Female Cyborg walking in a winter landscape in Norway:
- **Beautiful female cyborg, powerful sci-fi armor, snow, trees, banks, frosted, ice, gleaming, metal, white, high tech, robotics, still, pristine, majestic, Nordic, epic –ar 3:2**
- Write a compressed perfect image description with adjectives and nouns of a Female Cyborg walking in a winter landscape in Norway:
- **Magnificent female cyborg, dazzling futuristic armor, snow-covered, trees, banks, iced, chilly, shining, metallic, electric-blue, lenses, precise, mechanical, motion, serene, picturesque, glorious, Nordic, view. –ar 3:2**
- Write a compressed perfect image description with adjectives and nouns of a Female Cyborg walking in a winter landscape in Norway:

# Provision of Information and Condition for Answer



- Explanation for Task
- Pre-Knowledge learning
- Assigning the role of the user
- Assigning the role of AI
- Condition for answer
  - Who/Where/How/When

# Prompt Engineering – 3 - Algorithm



Prompt Engineering Algorithm: Clearness, Executable, Efficiency

## <참가조건>

※ 아래 참가조건 중 하나 이상 충족해야 펀딩 버튼이 표시됩니다.

1. 지금까지 모은 포인트 2만 점 이상(현재 잔액은 상관 없습니다.)

2. 온라인 강의 수료증 1개 이상

3. 메타마인드 트레이닝 게임 플레이 일수 7일 이상

(하루에 몇 회 플레이했는지가 아닌, 1회 이상 플레이한 일수를 계산합니다.)

4. 메타마인드 활동점수 6점 이상

(활동점수=작성한 게시글 수x3+작성한 댓글 수x1)

예시: 게시글 2개 작성하면 6점, 댓글(리뷰 포함) 6개 작성하면 6점.

5. 프리미엄 멤버십 회원 여부

(프리미엄 멤버십 회원의 경우 '펀딩하기' 버튼 클릭 시 무료로 참가신청 가능)

## <나의 현재 조건>

1. 지금까지 모은 포인트: **1443764p**

2. 수료증 개수: 3개

3. 트레이닝 게임 플레이 일수: 2 일

4. 활동점수: **1609점** (게시글: 496개 | 댓글: 121개)

5. 프리미엄 멤버십 회원 X

\*하나 이상의 조건이 충족되어 [펀딩하기] 버튼이 표시되고 있습니다.

```
1890 function get_user_certificate_count($user_id) {
1891     global $wpdb;
1892     $stable_name = $wpdb->prefix . '_lifterim_user_postmeta';
1893     $meta_key = '_certificate_earned';
1894     $query = "SELECT COUNT(DISTINCT $stable_name.post_id)
1895             FROM $stable_name
1896             WHERE $stable_name.meta_key = '$meta_key'
1897                 AND $stable_name.user_id = '$user_id'";
1898     $result = $wpdb->get_var($query);
1899     return $result;
1900 }
1901
1902 function get_game_history_count($user_id) {
1903     global $wpdb;
1904     $stable = $wpdb->prefix . '_w_game_history';
1905     $query = "SELECT COUNT(DISTINCT DATE(`date`)) AS count FROM $stable WHERE `uid` = $user_id";
1906     $result = $wpdb->get_var($query);
1907     return $count;
1908 }
1909
1910 // 현재 회원이 작성한 Kboard 게시글 수를 반환하는 함수
1911 function get_member_kboard_posts_count() {
1912     global $wpdb;
1913     $user_id = get_current_user_id();
1914     $count = $wpdb->get_var("SELECT COUNT(*) FROM ($wpdb->prefix)kboard_board_content WHERE member_uid = $user_id");
1915     return $count;
1916 }
1917
1918 // 현재 회원이 작성한 Kboard 댓글 수를 반환하는 함수
1919 function get_member_kboard_comments_count() {
1920     global $wpdb;
1921     $user_id = get_current_user_id();
1922     $count = $wpdb->get_var("SELECT COUNT(*) FROM ($wpdb->prefix)kboard_comments WHERE user_uid = $user_id");
1923     return $count;
1924 }
1925
1926 // 현재 회원이 작성한 기본 댓글 수를 반환하는 함수
1927 function get_member_comments_count() {
1928     $user_id = get_current_user_id();
1929     $count = 0;
1930     $array = array(
1931         'user_id' => $user_id,
1932         'count' => true
1933     );
1934     return $count;
1935 }
1936
1937 function donate_button_shortcode() {
1938     $output = '';
1939     $user_id = get_current_user_id();
1940     $mycred_points = $wpcred->get_user_total_balance($user_id);
1941     $num_certificates = get_member_certificate_count($user_id);
1942     $game_history_count = get_game_history_count($user_id);
1943     $kboard_posts_count = get_member_kboard_posts_count();
1944     $kboard_comments_count = get_member_kboard_comments_count();
1945     $activity_score = $kboard_posts_count * $kboard_comments_count * $comments_count;
1946     $premium_membership = current_user_can('premium-member');
1947
1948     if ($mycred_points >= 20000) {
1949         $mycred_points_text = "<span style='color: red; font-weight: 700;'>1. 지금까지 모은 포인트: $mycred_points</span><br>";
1950     } else {
1951         $mycred_points_text = "<span>1. 지금까지 모은 포인트: $mycred_points</span><br>";
1952     }
1953
1954     if ($num_certificates >= 1) {
1955         $num_certificates_text = "<span style='color: red; font-weight: 700;'>2. 수료증 개수: $num_certificates</span><br>";
1956     } else {
1957         $num_certificates_text = "<span>2. 수료증 개수: $num_certificates</span><br>";
1958     }
1959
1960     if ($game_history_count >= 15) {
1961         $game_history_count_text = "<span style='color: red; font-weight: 700;'>3. 트레이닝 게임 플레이 일수: $game_history_count 일</span><br>";
1962     } else {
1963         $game_history_count_text = "<span>3. 트레이닝 게임 플레이 일수: $game_history_count 일</span><br>";
1964     }
1965
1966     if ($activity_score >= 6) {
1967         $activity_score_text = "<span style='color: red; font-weight: 700;'>4. 활동점수: $activity_score (게시글: $kboard_posts_count, 댓글: $comments_count), $activity_score</span><br>";
1968     } else {
1969         $activity_score_text = "<span>4. 활동점수: $activity_score (게시글: $kboard_posts_count, 댓글: $comments_count), $activity_score</span><br>";
1970     }
1971
1972     if ($premium_membership === true){
1973         $premium_membership_text = "<span style='color: red; font-weight: 700;'>5. 프리미엄 멤버십 회원</span><br>";
1974     } else {
1975         $premium_membership_text = "<span>5. 프리미엄 멤버십 회원</span><br>";
1976     }
1977
1978     if ($mycred_points < 20000 && $num_certificates < 1 && $game_history_count < 15 && $activity_score < 6 && $premium_membership === false) {
1979         $output = "<button wpmn_donate_button (display:none)></button>";
1980     } else {
1981         $output = "<span style='font-weight: 700;'>*축죽은 조건이 있어 [펀딩하기] 버튼이 표시되지 않습니다.</span>";
1982     }
1983     $output .= "<span>$mycred_points</span>";
1984     $output .= "<span>$num_certificates</span>";
1985     $output .= "<span>$game_history_count</span>";
1986     $output .= "<span>$activity_score</span>";
1987     $output .= "<span>$premium_membership</span>";
1988     $output .= "<span style='color: red; font-weight: 700;'>*하나 이상의 조건이 충족되어 [펀딩하기] 버튼이 표시되고 있습니다.</span>";
1989 }
1990 add_shortcode('metamind_donate_button', 'donate_button_shortcode');
```

남산소년: 모르면 못찾겠다 이린진  
Nightbot : 기억력 챔피언의 기억술과 학습법을 악하고  
메타마인드교육: <https://metamind.kr>

## <참가조건>

\* 아래 참가조건 중 하나 이상 충족해야 펀딩버튼이 표시됩니다.

1. 지금까지 모은 포인트 2만 점 이상(현재 잔액은 상관 없습니다.)

2 온라인 강의 수료증 1개 이상

3. 메타마인드 트레이닝 게임 플레이 일수 7일 이상

(하루에 몇 회 플레이했는지가 아닌, 1회 이상 플레이한 일수를 계산합니다.)

4. 메타마인드 활동점수 6점 이상

(활동점수 = 작성한 게시글 수 X 3 + 작성한 댓글 수 x 1)

예시: 게시글 2개 작성하면 6점, 댓글(리뷰 포함) 6개 작성하면 6점.

5. 프리미엄 멤버십 회원 여부

(프리미엄 멤버십 회원의 경우 '펀딩하기' 버튼 클릭 시 무료로 참가신청)

## <나의 현재 조건>

1. 지금까지 모은 포인트: 1443764p

2 수료증 개수: 3개

3. 트레이닝 게임 플레이 일수: 2일

4. 활동점수: 1609점 (게시글: 496개 | 댓글: 121개)

5. 프리미엄 멤버십 회원 X

\*하나 이상의 조건이 충족되어 [펀딩하기] 버튼이 표시되고 있습니다.

## 8. 펀딩하기 버튼을 표시하는 방법

1. 접속한 회원정보를 가져온다.

2. 접속한 회원의 포인트 조회

3. 수료증 데이터 테이블에서 그 회원의 수료증 개수를 가져온다.

4. 트레이닝 게임 횟수를 데이터 베이스에서 가져온다. 그 데이터를 기반으로 1회 이상 플레이한 일수를 계산한다.

5. 데이터베이스에서 게시글 작성 개수를 가져와서 3을 곱하고, 댓글 수를 가져와서 둘을 더한다.

6. 해당 회원이 프리미엄 멤버십을 갖고 있는지 검사한다.

7. 다섯 개의 변수 중에서 하나 이상을 만족하는지 검사

8. 하나 이상의 변수를 만족하면 수강신청 버튼

남산소년: 모르면 못찾겠다 이런걸

Nightbot: 기억력 챔피언의 기억술과 학습법을 익히고 싶다면?

메타마인드교육: <https://metamind.kr>

```
1. 접속한 회원정보를 가져온다.
2. 접속한 회원의 포인트 조회
3. 수료증 데이터 테이블에서 그
4. 회원의 수료증 개수를 가져온다.
5. 트레이닝 게임 횟수를 데이터
6. 베이스에서 가져온다. 그 데이터를
7. 기반으로 1회 이상 플레이한 일수를
8. 계산한다.
```

```
9. 데이터베이스에서 게시글 작성
10. 개수를 가져와서 3을 곱하고, 댓글
11. 수를 가져와서 둘을 더한다.
12. 해당 회원이 프리미엄 멤버십을
13. 갖고 있는지 검사한다.
14. 다섯 개의 변수 중에서 하나 이상을
15. 만족하는지 검사
16. 하나 이상의 변수를 만족하면 수강신청 버튼
```

```
1. 접속한 회원정보를 가져온다.
2. 접속한 회원의 포인트 조회
3. 수료증 데이터 테이블에서 그
4. 회원의 수료증 개수를 가져온다.
5. 트레이닝 게임 횟수를 데이터
6. 베이스에서 가져온다. 그 데이터를
7. 기반으로 1회 이상 플레이한 일수를
8. 계산한다.
```

```
9. 데이터베이스에서 게시글 작성
10. 개수를 가져와서 3을 곱하고, 댓글
11. 수를 가져와서 둘을 더한다.
12. 해당 회원이 프리미엄 멤버십을
13. 갖고 있는지 검사한다.
14. 다섯 개의 변수 중에서 하나 이상을
15. 만족하는지 검사
16. 하나 이상의 변수를 만족하면 수강신청 버튼
```

# **3 Conditions for Good Prompt Engineers**

- Understanding of AI
- Skill to Write Prompts
- Ability for Problem-Solving

# **Andrew Ng's 'ChatGPT Prompt Engineering'**

[https://www.youtube.com/watch?v=P8yKg88xF\\_8](https://www.youtube.com/watch?v=P8yKg88xF_8)

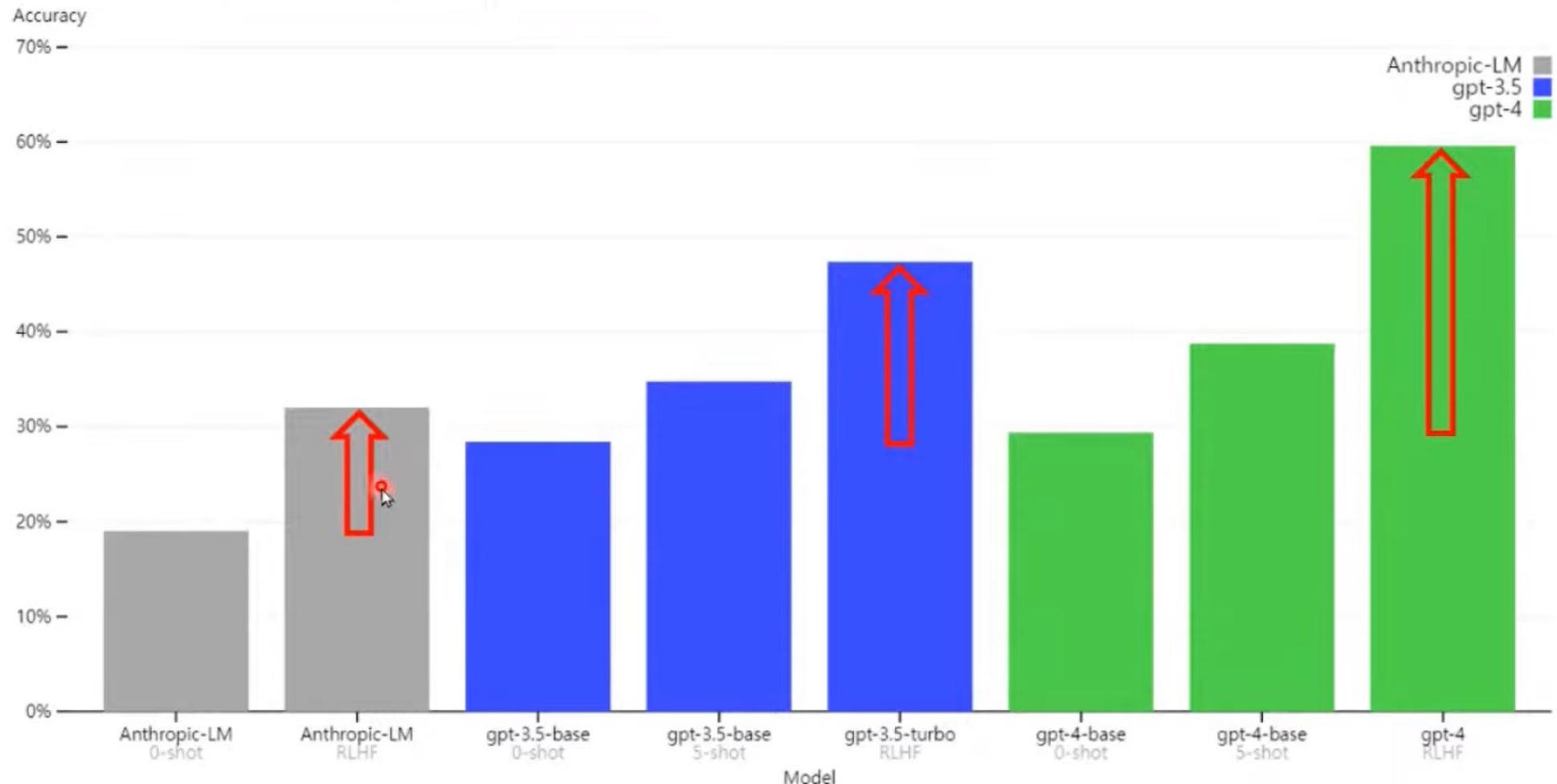
<https://bit.ly/3W89UkV>

[https://colab.research.google.com/drive/1aqssqQKmi\\_lG5QDMUnKk5t-O\\_bs14Ap7?usp=sharing](https://colab.research.google.com/drive/1aqssqQKmi_lG5QDMUnKk5t-O_bs14Ap7?usp=sharing)

# Effect of RLHF to Performance

RLHF has a big effect.

Accuracy on adversarial questions (TruthfulQA mc1)



# CHATGPT PROMPTING CHEAT SHEET

Act as a <b>(ROLE)</b>	Create a <b>(TASK)</b>	Show as <b>(FORMAT)</b>
• CEO	• Essay	• List
• Marketer	• Recipe	• PDF
• Inventor	• Article	• XML
• Therapist	• Ad Copy	• HTML
• Journalist	• Headline	• Code
• Advertiser	• Analysis	• Graphs
• Copywriter	• Blog Post	• A Table
• Ghostwriter	• Summary	• Rich Text
• Accountant	• Sales Copy	• Summary
• Entrepreneur	• Video Script	• Markdown
• Mindset Coach	• SEO Keywords	• Word Cloud
• Project Manager	• Book Outline	• Spreadsheet
• Prompt Engineer	• Email Sequence	• Gantt Chart
• Website Designer	• Social Media Post	• Plain Text file
• Best Selling Author	• Product Description	• Presentation Slides

**“Acting as a (ROLE) perform (TASK) in (FORMAT)”**

# ChatGPT 사용법 7) 문제풀기 Solving Problem

		estimated percentile	estimated percentile	estimated percentile
Uniform Bar Exam (MBE+MEE+MPT) <sup>1</sup>	<b>미국 변호사 시험</b>	298/400 ~90th	298/400 ~90th	213/400 ~10th
LSAT		163 ~88th	161 ~83rd	149 ~40th
SAT Evidence-Based Reading & Writing	<b>미국 대학수학능력시험</b>	710/800 ~93rd	710/800 ~93rd	670/800 ~87th
SAT Math		700/800 ~89th	690/800 ~89th	590/800 ~70th
Graduate Record Examination (GRE) Quantitative		163/170 ~80th	157/170 ~62nd	147/170 ~25th
Graduate Record Examination (GRE) Verbal	<b>대학원 시험</b> <b>수리/언어/작문</b>	169/170 ~99th	165/170 ~96th	154/170 ~63rd
Graduate Record Examination (GRE) Writing		4/6 ~54th	4/6 ~54th	4/6 ~54th
USABO Semifinal Exam 2020		87/150 99th~100th	87/150 99th~100th	43/150 31st~33rd
USNCO Local Section Exam 2022		36/60	38/60	24/60
Medical Knowledge Self-Assessment Program		75%	75%	53%
Codeforces Rating		392 below 5th	392 below 5th	260 below 5th
AP Art History		5 86th~100th	5 86th~100th	5 86th~100th
AP Biology		5 85th~100th	5 85th~100th	4 62nd~85th
AP Calculus BC		4 43rd~59th	4 43rd~59th	1 0th~7th

# 프롬프트 엔지니어링(Prompt Engineering) 이란? What is Prompt Engineering?

- 구체적으로
  - Detailed.. Specifically..
- 심플하고 명확하게
  - Simple and Clearly
- 절차적으로
  - Procedurally
- 예시를 들어서
  - Using Illustration



# Prompting vs. finetuning

## Prompting

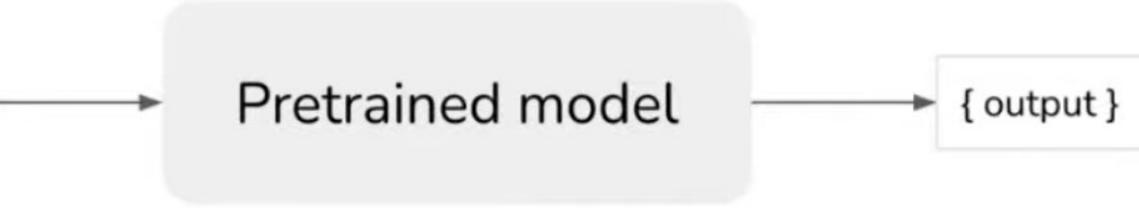
### Prompting

You're an unbiased professor. For each input, give it a score from 0 to 10.

{ examples }

...

{ input }



## Finetuning

### Finetuning

{ input }

Pretrained model

{ examples }

Finetuned model

{ output }

# Prompt Optimization

Consider how to create prompt to get response that I want from the AI model.

- AI모델로 부터 원하는 응답을 얻기 위해 어떻게 프롬프트를 만들지 고민 필요
- 좋은 프롬프트 만드는 세가지 전략 3 Strategies to make good prompts
  - Zero-shot prompts: 예시 없는 프롬프트 (질문: ChatGPT가 뭐야?)  
No example
  - Few-shot prompts: 몇개의 예시를 보여주며 질문 Asking with several examples
  - COT(Chain-of-thought prompts): 논리적으로 순서대로 Logically, In order
    - step-by-step 설명 Step-by Step Explanation
    - 입력 길이가 길어져서 시간/비용과 tradeoff Long input needs time/cost - tradeoff
  - Self-consistency technique: 같은 프롬프트로 여러 결과를 만들고 좋은 결과 선택  
With same prompts, get several results, and select better one.

# Prompt Optimization

- AI모델로 부터 원하는 응답을 얻기 위해 어떻게 프롬프트를 만들지 고민 필요
- 좋은 프롬프트를 만들기 위한 세가지 **프롬프트 최적화**
  - Zero-shot prompts: 예시 없는 프롬프트 (질문: ChatGPT가 뭐야?)
    - AI가 'capital'을 이해 못함

Q: What is the capital of France?  
A: France

- Few-shot prompts: 몇개의 예시를 보여주며 질문

- AI가 학습X, 예시로 유추

Q: What is the capital of Spain?

A: Madrid

Q: What is the capital of Italy?

A: Rome

- Self-consistency technique

Q: What is the capital of France?

A: Paris

# Promp

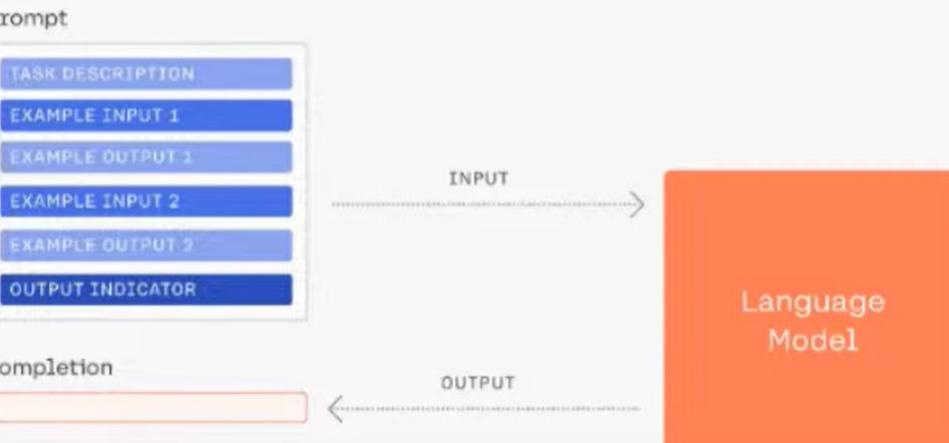
- AI모델로 부터



- 좋은 프롬프트

- Zero-shot

- A

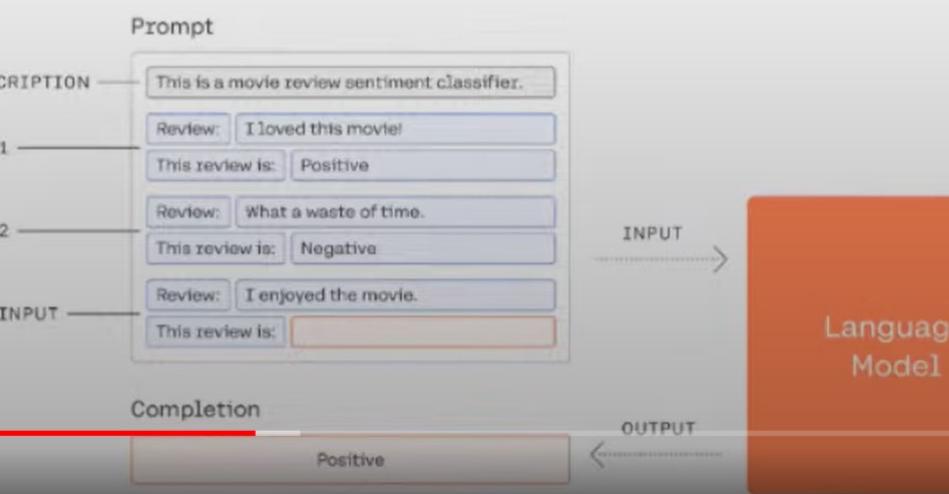


- Few-shot

- A

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- COT(Ch



- Self-co

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# Prompt Optimization

- AI모델로 부터 원하는 응답을 얻기 위해 어떻게 프롬프트를 만들지 고민 필요

- 좋은 프롬프트 만드는 세가지 전략

- Zero-shot prompts: 예시 없는 프롬프트 (질문: ChatGPT가 뭐야?)

- Few-shot prompts: 몇개의 예시를 보여주며 질문

- COT(Chain-of-thought prompts): 논리적으로 순서대로

- step-by-step 설명

- 입력 길이가 길어져서 시간/비용과 tradeoff

Q: A juggler can juggle 16 balls. Half of the balls are golf balls, and half of the golf balls are blue. How many blue golf balls are there?

A: There are 8 blue golf balls.

Q: A juggler can juggle 4 balls. Half of the balls are golf balls, and half of the golf balls are red. How many red golf balls are there?

A: Step1: There are 4 balls. Step 2: There are 2 golf balls. Step3: There is 1 red golf ball. So there is 1 red golf ball.

Q: A juggler can juggle 16 balls. Half of the balls are golf balls, and half of the golf balls are blue. How many blue golf balls are there?

A: Step1: There are 16 balls. Step 2: There are 8 golf balls. Step3: There is 4 blue golf balls. So there is 4 blue golf balls.

31

Q: A juggler can juggle 16 balls. Half of the balls are golf balls, and half of the golf balls are blue. How many blue golf balls are there? Let's think about this logically.

1. There are 16 balls.
2. Half of the balls are golf balls.
3. Half of the golf balls are blue.

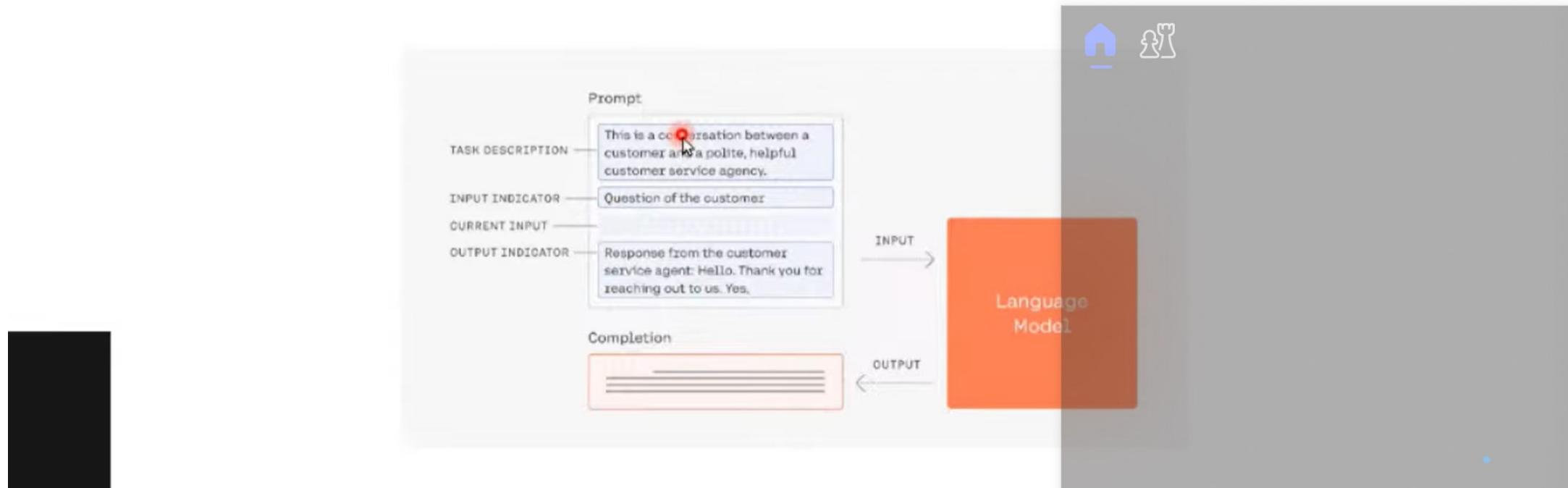
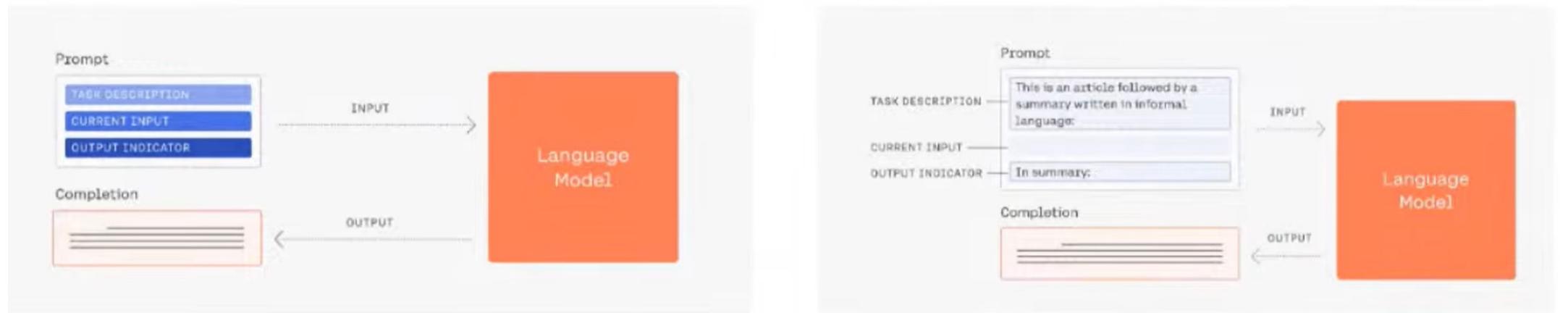
Now we can write an equation.

There are 8 golf balls.

There are 4 blue golf balls.

So, the answer is 4.

# Prompt Optimization

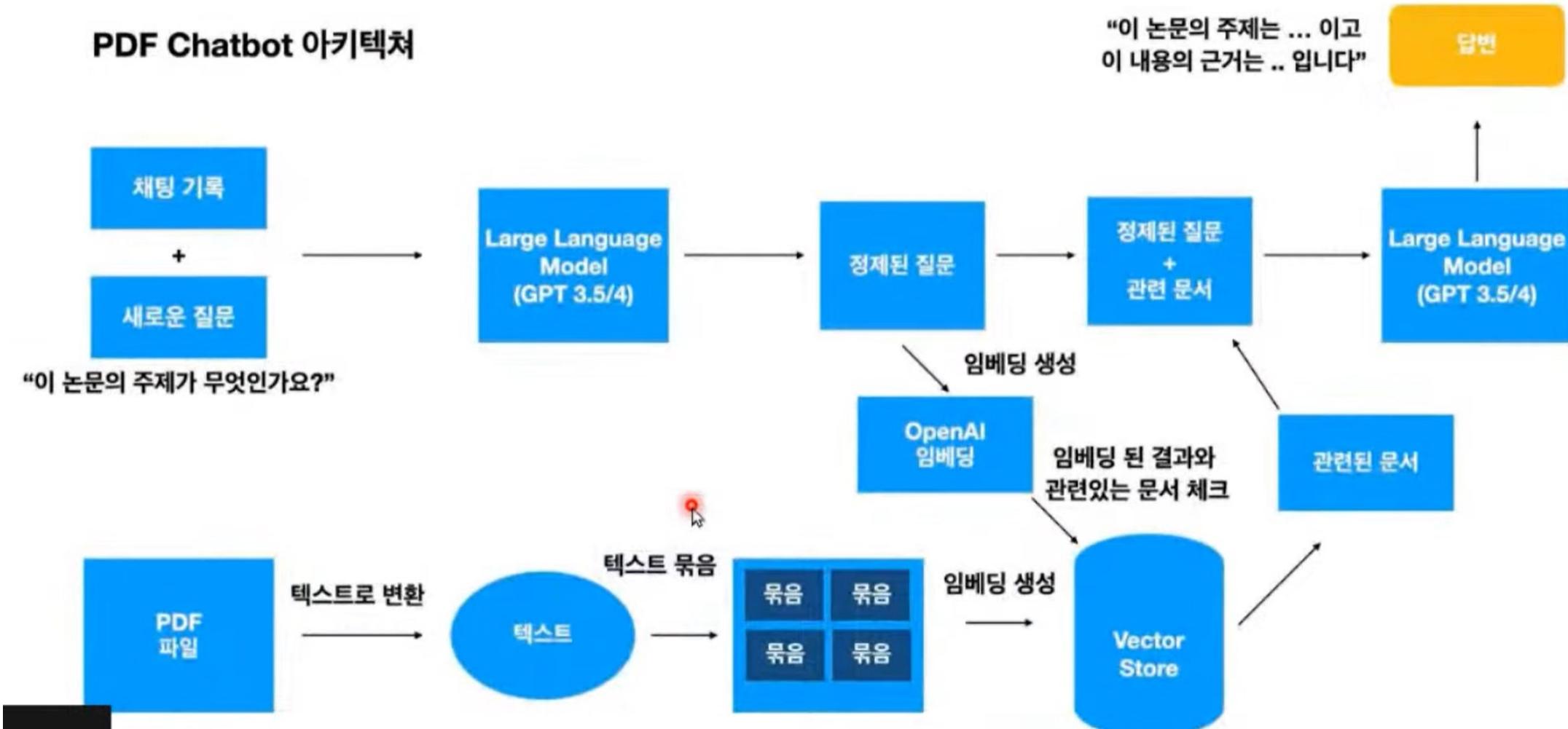


# Embeddings + vector databases

## PDF Chatbot 아키텍처

“이 논문의 주제는 ... 이고  
이 내용의 근거는 .. 입니다”

답변



# Base LLM VS Instruction Tuned LLM

- Base LLM: 단순히 다음 단어 예측 Predict the next word simply.
- 우리가 원하는 건? 질문(instruct)에 대한 적절한 응답 We want proper answer to instruct.
- Instruction Tuned LLM: LLM이 질문에 대해 답을 '잘'하도록 학습  
Let the LLM to train to give better answer to instruct.

PROMPT     *Explain the moon landing to a 6 year old in a few sentences.*

COMPLETION     GPT-3

Explain the theory of gravity to a 6 year old.

Explain the theory of relativity to a 6 year old in a few sentences.

Explain the big bang theory to a 6 year old.

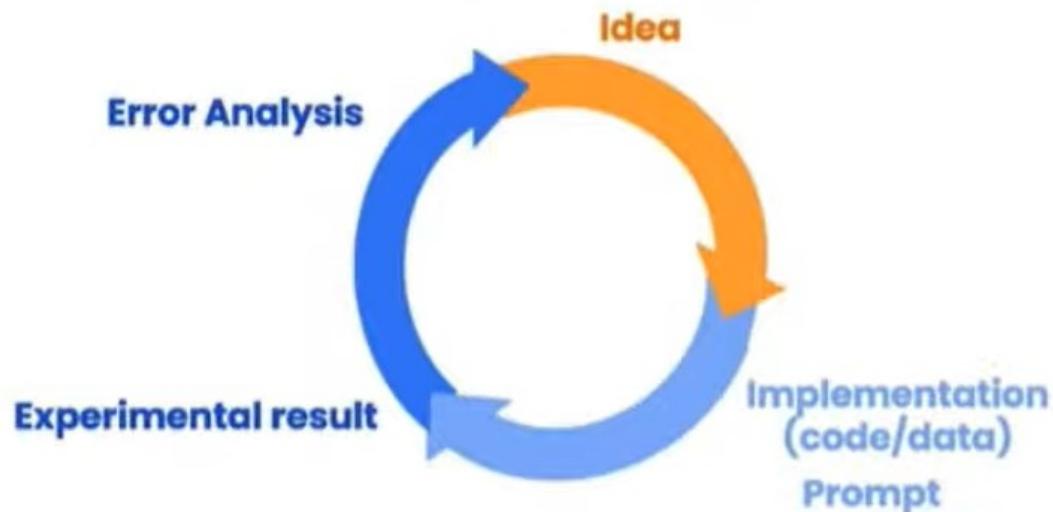
Explain evolution to a 6 year old.

InstructGPT

People went to the moon, and they took pictures of what they saw, and sent them back to the earth so we could all see them.

# 2\_Iterative

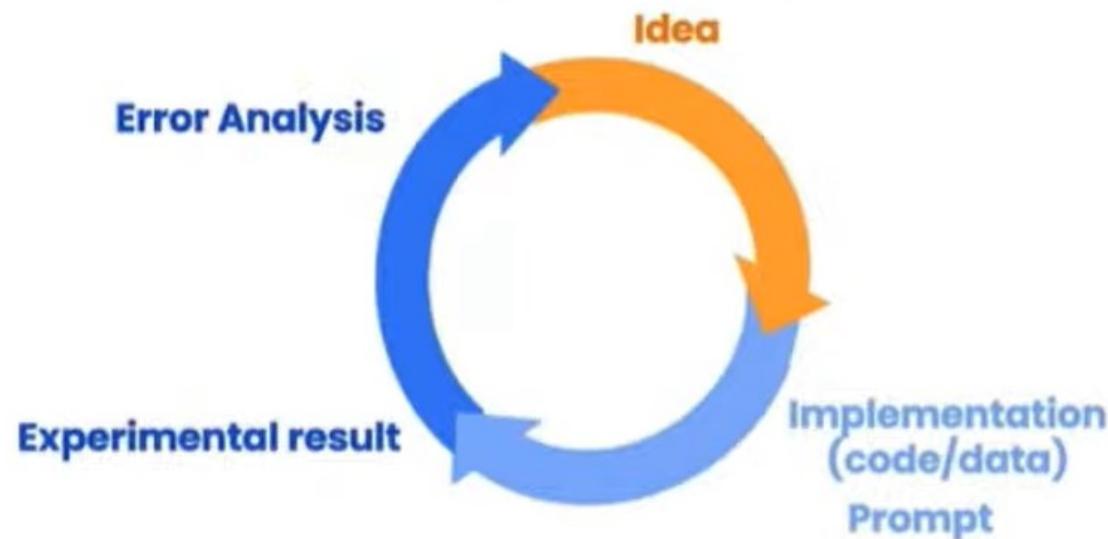
## Iterative Prompt Development



### Prompt guidelines

- Be clear and specific
- Analyze why result does not give desired output.
- Refine the idea and the prompt
- Repeat

## Iterative Prompt Development



### Iterative Process

- Try something
- Analyze where the result does not give what you want
- Clarify instructions, give more time to think
- Refine prompts with a batch of examples

# Changing Hyper-Parameters

- **Controlling output of generative model**
- **Temperature:** Control probability distribution of the model output (High: various, Low:consistent)
- **max\_tokens:** maximum number of tokens to be generated.
- **Top\_p or top\_k:** top\_p(accumulated sum of output probability) and top\_k (considering the top k higher probabilities from the highest probabilities)

# 하이퍼 파라미터 조절하기(6\_Expanding)

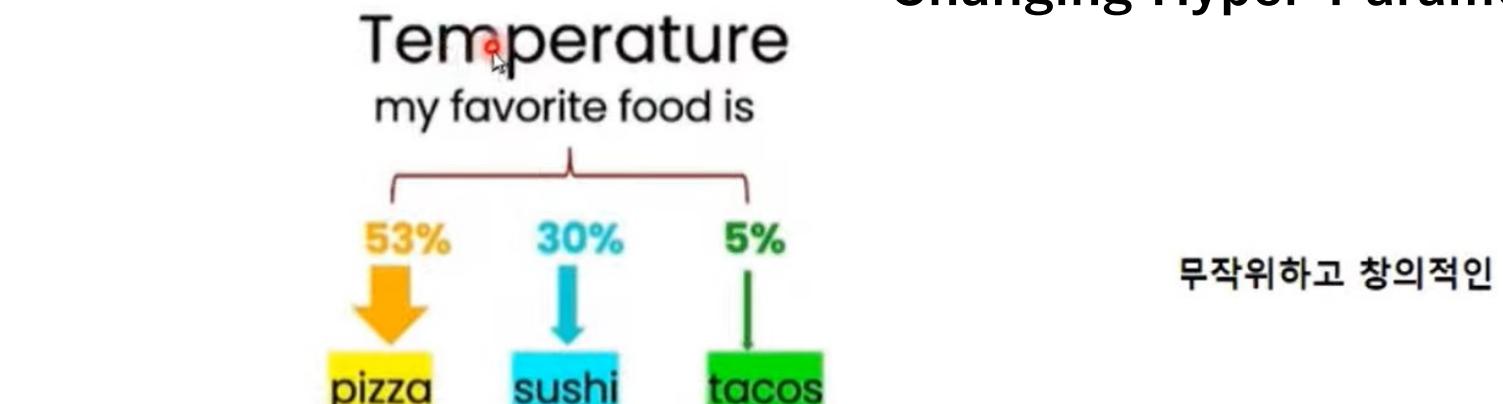
- 하이퍼 파라미터

- temperature (0 ~ 1)

답변을 생성하는 과정

- 높을수록

- 낮을수록



무작위하고 창의적인

- max\_tokens (10 ~ 100)

문장의 길이를 제한하는 힘

Temperature = 0  
my favorite food is pizza  
my favorite food is pizza  
my favorite food is pizza

for tasks that require reliability, predictability

합니다. 이를 통해 충분히 확률을 고려합니다.

Temperature = 0.3  
my favorite food is pizza  
my favorite food is sushi  
my favorite food is pizza

- top\_p 또는 top\_k

특정 임계값(0.1 ~ 1.0)을 설정하는 힘

다.

Temperature = 0.7  
my favorite food is tacos  
my favorite food is sushi  
my favorite food is pizza

확률의 누적 합이 1을 초과하는 경우에만 고려합니다.

만약 확률의 누적 합이 1을 초과하지 않는 경우에만 고려합니다.

# 역할 지정하기(7\_Chatbot) Assigning a Role

## Role

```
messages =  
[  
    {"role": "system",  
     "content": "You are an assistant... "},  
    {"role": "user",  
     "content": "tell me a joke "},  
    {"role": "assistant",  
     "content": "Why did the chicken... "},  
    ...  
]
```

system

Sets behavior of assistant

assistant

Chat model



user

You

# Conclusion

- Principle of Prompt Engineering
    - Clear and Specific Prompt
    - Give the Model Time to think
  - Iterative Prompt Development
  - Ability: Summary, Inference, Expansion, Chat Bot
- Transform,

# 프롬프트 컬렉션 Prompt Collection

Discover the Collection of  
best ChatGPT Prompts

PromptVine is a community-driven collection of the best ChatGPT prompts. Find the best ChatGPT prompts by category, profession, or use case.

Discover Prompts

Discover Apps

## ChatGPT Prompt Categories

### Animals & Pets

This category focuses on AI chat prompts related to the care, behavior, and well-being of various animals and pets.

### General Conversation

Get the ball rolling with general conversation prompts that can spark fun, meaningful dialogue, and connection.

### Personal

These prompts encourage you to reflect on your personal experiences, feelings, and aspirations.

### Education & Tutoring

Expand your knowledge and engage your mind with educational prompts that challenge and inspire.

### Entertainment

Kick back and relax with entertainment prompts that are perfect for those who want to unwind and have fun.

### Problem-solving

Put your critical thinking skills to the test with problem-solving prompts that challenge you to think logically and creatively.

### Creative Writing

Fuel your creative muscles with prompts that inspire you to write creatively and expressively.

### Self-improvement

Use these prompts to reflect on your personal goals, motivations, and values, and set new ones.

### Emotional

These prompts are designed to help you explore and process your emotions in a healthy and constructive way.

### Social

Engage with AI chatbot in a social and interactive way with these prompts that encourage collaboration and communication.

### Health and Wellness

These prompts encourage you to reflect on your physical and mental health and take steps towards improvement.

### Home and Property

Whether you're a homeowner, a renter, or a real estate enthusiast, these prompts will provide valuable insights and tips.

### Career Development

Use these prompts to reflect on your career goals, skills, and aspirations, and take action towards success.

### Travel and Adventure

These prompts encourage you to explore new places, cultures, and experiences, and plan your next adventure.

### Food and Cooking

These prompts encourage you to reflect on your relationship with food and cooking, and discover new recipes and techniques.

### Sports and Fitness

Whether you're a seasoned athlete or just starting on your fitness journey, these prompts will inspire you to stay active and healthy.

### Fashion and Beauty

Stay up to date on the latest fashion trends and beauty tips with these prompts...

### Arts and Culture

This category offers prompts that cover various forms of art, including music,

### Music and Entertainment

From the latest music releases to movies and TV shows, these prompts will keep you entertained and inspired.

### Science and Technology

Dive into the world of science and technology with these prompts that cover everything from space exploration to artificial intelligence.

### Politics and Current Events

Stay informed about the latest political news and current events with these...

### Philosophy and Religion

Explore deep philosophical and spiritual topics with these prompts. Use them to...

### Professional Services

Get expert advice and guidance on various professional services with these prompts...

### Literature and Writing

Whether you're an avid reader or a budding writer, these prompts are perfect for...

### History and Geography

Explore the rich history and diverse geography of the world with these prompts...

### Environmental

These prompts are all about encouraging eco-friendly habits and awareness.

### Business and Entrepreneurship

These prompts are designed to inspire creativity and innovation in business and...

### Personal Finance

These prompts are all about building financial literacy and learning how to make...

### Storytelling

These prompts are designed to help you develop your storytelling skills and find your unique voice.

### Conversation Starters

These prompts are perfect for anyone looking to start engaging conversations...

### Psychological

These prompts explore the fascinating world of psychology, helping you...

### Opinion

These prompts are designed to help you develop your own unique perspective on...

### Prediction

These prompts encourage you to think about the future and imagine what it might...

### Fantasy

These prompts transport you to magical realms and imaginary worlds, full of...

### Futuristic

These prompts invite you to explore the cutting edge of technology and imagine...

### Inspirational

These prompts are designed to motivate and inspire you to achieve your goals and...

# **Exercise**

- **PromptEngineering-Exercise.py**