

lab-natural-language-to-sql

Short Report: SQL Generation with GPT – Prompt Variations

Goal:

To explore how different prompt styles influence GPT's ability to generate accurate SQL queries.

Prompt Versions Tested:

1. Simple Prompt:

- A straightforward question and schema.
 - Result: Correct SQL output.
 - Example:
 - `SELECT name FROM employees ORDER BY salary DESC LIMIT 1;`
 - This approach worked well.

2. Few-Shot Prompt (with Examples):

- Included example questions and answers.
 - Result: Accurate and consistent SQL.
 - Helped the model follow a specific format.

3. Ambiguous Prompt:

- Vague instructions and unclear schema.
 - Result: Incorrect query with hallucinated table names.
 - Caused confusion due to lack of clarity.

Findings:

- Simple, direct prompts give the best results.
- Including examples helps guide the model effectively.
- Overcomplicated prompts can lead to errors or hallucinations.

Conclusion:

Clarity is key when prompting GPT for SQL generation. Adding a few examples can help, but unnecessary complexity should be avoided. Simple instructions and consistent format result in better performance.