Reflection Mini Project 01

KONSTANTIN - HENDRIK - NINA AUTOMATION AND AI HPI POTSDAM WS 2024/25

Task 1 Steps Without LLM:



Familiarize with (p)sql

e.g. write easy SELECT statements and debug (;); find helpful resources such as cheat sheets



Divide and Conquer of the Task

e.g. "Find all messages longer than 100 characters that have been liked by at least 20 People"



Google and start from scratch again

Biggest issue: friends of friends identification



Prompt the LLM (ChatGPT) once

02

We provided task and schema and got the right answer.

Task 1 Steps With LLM:

Automation and AI Hendrik Konstantin Nina





Task 1 Reflection:

Time Investment

Hard to quickly get a task done without profound experiencee



Learning Curve

Higher (p)sql related learning curve when doing the task manually



Choose the right Tool

Visual Studio Code and github Copilot

Validity Checking

In both cases, the results need to be checked for correctness.

Automation and Al

Hendrik Konstantin Nina

03

Task 2 Reflection







Breaking Down Complexity

- Structuring queries simplified understanding
- Modular approaches improve accuracy and clarity

For Whom?

- Bridges gaps in skills
- Beneficial for learners
- Distractive for experts?

Power of Advanced Tools

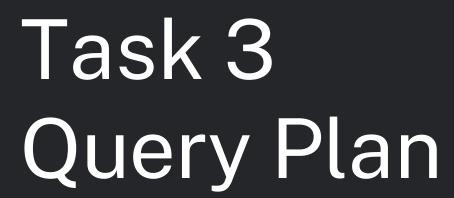
- Surprised by quality of results
- Increases productivity in workflows
- Streamline and simplify tasks





Query plan included statisics and execution order

LLM generated a query plan in pseudo code without statisics





Result of the LLM does not explain the query

It explains the parts of query plan in general using the query as an example

Task 3 Reflection

LLMs are great for SQL development

Ability to create correct
 SQL queries for complex topics

Query plan creation is fully automated

- No contribution from the developer expected
- Optimizer is compareable with a compiler regarding automation

Key differences between query plan and LLMs

- Limited input space for query optimizer
- LLM does not have the same large context as the query optimizer