SQL and Large Language Models: A Marriage Made in Heaven? - Abstract

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Abstract

On 17th June 2025, Paolo Papotti delivered a keynote talk at the 33nd Symposium on Advanced Database Systems in Ischia (Napoli, Italy). The following is the abstract of his talk

Abstract

With the rise of pre-trained Large Language Models (LLMs), there is now an effective solution to store and use information extracted from massive corpora of documents. However, for data-intensive tasks over structured data, relational DBs and SQL queries are at the core of countless applications. While these two technologies may appear distant, in this talk we will see that they can interact effectively and with promising results. LLMs can help users express SQL queries (Semantic Parsing), but SQL queries can be used to evaluate LLMs (Benchmarking). Their combination can be further advanced, with opportunities to query with a unified SQL interface both LLMs and DBs. We present recent results on these topics and then conclude with an overview of the research challenges in effectively leveraging the combined power of SQL and LLMs.

Declaration on Generative AI

The authors have not employed any Generative AI tools.