Panel on AI for Future Databases:
A New Beginning or a Boulevard of Broken Dreams?

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Abstract

AI has opened new directions in database research, from learned components replacing traditional internals to large language models(LLMs), enabling a new generation of database systems that allow querying data beyond tables. Yet, adoption in commercial databases has been incremental rather than a fundamental rethinking of modern data system stacks. In this panel, we bring together experts from academia and industry to discuss the tension between potential and reality in how AI shapes real-world database products.

We will explore questions such as: What should an AI-ready database stack look like: incremental evolution or radical departure? What prevents AI from replacing traditional components like query optimizers, cost models, and indexes? What does it take for LLM-based innovations to move beyond impressive demos? Can we use LLMs for more than Text-to-SQL and LLM-UDFs? By tackling these questions, this panel will challenge assumptions in research, examine the role of AI in future databases, and ask the following: Is AI the key to overcoming core limitations and will thus enable a new generation of database systems, or maybe AI is just another boulevard of broken (database) dreams?

CCS Concepts

• **Information systems** → **Data management systems**; • **Artificial intelligence**;

Keywords

databases, artificial intelligence