

ABSTRACT

PT Tabel Data Informatika faced the need to develop a data exploration system that can be used by non-technical users without the need to manually write SQL queries. To answer this need, a Text-to-SQL chatbot was built based on DefogLlama integrated with langchain. The system development process employed the prototyping method, consisting of several stages requirement analysis, data preparation, LLM model selection, prototype development, testing, and system implementation. Evaluation results using fifteen datasets showed an accuracy rate of 86.67%, demonstrating that the system is capable of understanding natural language input and translating it into valid SQL queries executable within the database.

Keywords: Chatbot, Text-to-SQL, DefogLlama, Large Language Models (LLM)