

## TinyLlama-Powered AI Chatbot: Transforming Medical Education for Patients ★

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**Abstract.** In the last two years, the rise of Large Language Models (LLMs) and Small Language Models (SLMs) has driven advancements in fields such as industry, education, and healthcare. For obvious reasons, medical practitioners will never be replaced by these language models; however, LLMs and SLMs can assist in ways such as aiding in diagnosing conditions, providing medical literature reviews and supporting patient communication and understanding of medical terms [1].

This paper presents an innovative AI-driven chatbot based on TinyLlama [2, 3] as a tool for delivering precise, contextually relevant, and safe educational content in the healthcare field, in order to help patients better understand the medical terms, diagnosis and treatment options. Designed for efficiency, TinyLlama operates on personal computers without GPUs, being environmentally friendly.

In particular for the English language, the experiments demonstrated performance in delivering contextually appropriate responses to medical queries, assisting users in understanding diagnosis, treatments, and medical terms.

In conclusion, this paper presents an educational chatbot for patients, adapted specifically for answering questions in the medical field. The promising results observed with English-language interactions showcase TinyLlama's potential impact, while the identified limitations for languages such as Romanian and German highlight areas for future enhancement, including better prompting and fine-tuning.

### References

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