ABSTRACT

This research introduces an innovative question-answering chatbot, merging advanced Large Language Models (Mistral, Llama2, Yi, GPT-2 and customized model) and Natural Language Processing (NLP) techniques. The project aims to enhance understanding of complex machine-learning concepts through an AI-driven, user-friendly platform. The system, built on a Flask backend architecture, seamlessly integrates models for efficient processing. The front-end interface, developed with HTML, CSS, and JavaScript, supports both text and voice inputs, enhancing accessibility. Preliminary results showcase the chatbot's high proficiency, generating context-sensitive responses with low validation loss. The multi-model approach ensures response diversity and correctness, effectively addressing a wide range of queries. This study not only bridges a gap in machine learning education but also lays the groundwork for future AI-driven educational resources, potentially revolutionizing AI education and enhancing students' comprehension of machine learning principles.

INTRODUCTION

To address the challenge of digesting complex machine learning (ML) concepts, this project introduces a specialized chatbot designed to demystify these topics for learners. Despite the availability of educational resources, there remains a significant gap in tools that offer personalized, interactive learning experiences tailored to the pace and style of individual students.
AI-Tutor, an ML chatbot, fills this void by employing a sophisticated blend of advanced ML algorithms and a vast dataset of 27,000 Q&A pairs to deliver

learning curves (GeeksforGeeks, 2023). Enhanced with domain-

CONCLUSIONS & RECOMMENDATIONS