A Review on Recent Advances in Chatbot Design

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Abstract*: A chatbot is a dialog-exchanging system designed to facilitate meaningful and empathetic conversations between humans and computers. Chatbot emerged like a machine which interacts with a human by spoken/ textual conversation and response similarly but now there has been a tremendous increase in development of Assistants and Chatbots with advanced technologies. This paper provides a comprehensive review of the latest advancements in chatbot design, focusing on the dynamic field of Artificial Intelligence (AI) and its applications in conversational agents. As chatbots continue to play a pivotal role in enhancing user experience across various domains, a thorough understanding of the evolving design strategies is imperative. The paper explores key elements such as Natural Language Processing (NLP) techniques, machine learning models, Deep Learning Models and user experience considerations. By synthesizing recent studies and real-world implementations, this review aims to offer insights that will contribute to the ongoing progress in chatbot development and deployment.*

Keywords: Chatbot, Natural Language Processing, Intelligent Responses, Machine Learning, Deep Learning

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