عنوان مقاله:

Advancements and Challenges in Conversational Chatbots: A Survey of Artificial Intelligence andNatural Language Processing Applications

محل انتشار:

نویسنده:

Omid Noori

خلاصه مقاله:

Chatbots are intelligent conversational computer systems designed to mimic human conversation to enableautomated online guidance and support. A conversational chatbot or dialogue system is a computer program designed to simulateconversation with human users, especially over the Internet. These chatbots can be integrated into messaging apps, mobile apps, orwebsites, and are designed to engage in natural language conversations with users. There are also many applications in which chatbotsare used for educational support to im-prove students' performance during the learning cycle. The recent success of ChatGPT alsoencourages researchers to explore more possibilities in the field of chatbot applications. One of the main benefits of conversationalchatbots is their ability to provide an instant and automated response, which can be leveraged in many application areas. Chatbotscan handle a wide range of inquiries and tasks, such as answering frequently asked questions, booking appointments, or makingrecommendations. The increased benefits of chatbots led to their wide adoption by many industries in order to provide virtualassistance to customers. Chatbots utilise methods and algorithms from two Artificial Intelligence domains: Natural LanguageProcessing and Machine Learning. However, there are many challenges and limitations in their application. In this survey wereview recent advances on chatbots, where Artificial Intelligence and Natural Language processing are used. We highlight themain challenges and limitations of current work and make recommendations for future research investigation.

کلمات کلیدی:

chatbot; conversational agents; human-computer dialogue system; social chatbots; ChatScript; conversational modelling;conversation systems; conversational system; conversational entities; embodied conversational agents

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