INFORMATICS INSTITUTE OF TECHNOLOGY

In Collaboration with

UNIVERSITY OF WESTMINSTER

Artificial Intelligence Based Chatbot

For

Hotel Industry

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ABSTRACT

Customer satisfaction is crucial for the success of hotels in the hospitality industry. Providing efficient and effective customer service is a significant challenge, which can be addressed by developing a chatbot that can understand and respond to customer queries in natural language. This project aims to develop an AI-based chatbot for the hotel industry using deep learning and neural network techniques.

The chatbot was designed to be highly interactive and user-friendly, providing customers with quick and accurate responses to their queries. We used a neural network to generate responses to customer queries, which were further refined using natural language processing techniques.

The test results of the chatbot were highly encouraging, with an accuracy rate of over 70%. We used precision, recall, and F1-score as data science metrics to evaluate the performance of the chatbot. The results demonstrate that the chatbot is highly effective in understanding customer queries and providing relevant responses. The chatbot has the potential to significantly improve customer satisfaction in the hospitality industry, leading to higher customer retention and increased revenue.

Keywords: AI, chatbot, deep learning, neural network, hospitality industry.

Subject Descriptors:

- Natural Language Processing, Information Retrieval, Human-Computer Interaction.

- Software and its engineering->

- Software creation and management Information systems

- Information systems applications->Decision support systems->

- Computing methodologies->Artificial intelligence->Natural language processing->Natural language generation