BUILDING A ROBOT WITH SPEECH RECOGNITION AND CUSTOM CHATBOT

A Project report submitted for the partial fulfilment of the requirements

for the award of degree of

BACHELOR OF TECHNOLOGY

In

ELECTRONICS AND COMMUNICATION ENGINEERING

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## AVANTHI INSTITUTE OF ENGINEERING AND TECHNOLOGY
(Approved by A.I.C.T.E, Permanently Affiliated to J.N.T.U.GV, AP)
(An NAAC A+ Accredited Institution)

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(2020-2024)

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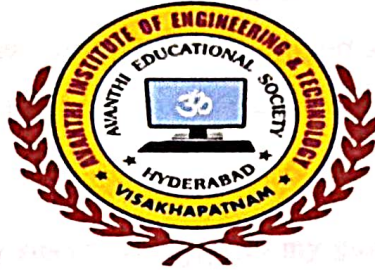
CERTIFICATE

This is to certify that the project entitled **"BUILDING A ROBOT WITH SPEECH RECOGNITION AND CUSTOM CHATBOT"** is the partial fulfilment of the requirements for summer internship program of Bachelor of Technology in the Department of ELECTRONICS AND COMMUNICATION ENGINEERING at AVANTHI INSTITITUTE OF ENGINEERING AND TECHNOLOGY, Makavarapalem, Narsipatnam, is a bonafide work carried out by **G.DEEPTHI (20811A0424)**, **CH.PAVANI (20811A0416)**, **CH.GOWRI PARVATHI DEVI (20811A0417)**, **G.SAMUEL (21815A0413)**, **J.SRINIVAS (20811A0427)** under the guidance and supervision during 2023-2024.

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PROJECT GUIDE

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ABSTRACT

This project aims to develop a cutting-edge robotic system that not only recognizes speech but also incorporates a custom-designed chatbot for more natural human interaction. By leveraging advanced technologies, the system seeks to enable smooth communication between users and the robot, enhancing user experience and pushing the boundaries of human-robot interaction. At its core, the project will utilize robust speech recognition algorithms to accurately understand and interpret spoken commands or queries from users. This technology forms the foundation of the system, allowing it to comprehend natural language input effectively. In addition to speech recognition, the project involves the creation of a bespoke chatbot tailored to interact seamlessly with users. Unlike generic chatbots, this custom-developed solution will be finely tuned to understand context, respond appropriately, and engage users in meaningful conversations. This personalized approach aims to mimic human conversation patterns and adapt to user preferences, thereby enhancing the overall interaction experience. By integrating these sophisticated technologies, the project aspires to elevate the capabilities of human-robot interaction. Users will be able to communicate with the robot in a manner that feels intuitive and effortless, fostering greater acceptance and usability of robotic systems in various contexts. Furthermore, this initiative provides students with a unique opportunity to delve into leading-edge robotics technologies and gain practical expertise in system integration and software development. Through hands-on involvement in designing, implementing, and testing the system, students will acquire valuable skills and insights that are highly relevant in today's rapidly evolving technological landscape. Overall, the project represents a significant step forward in the realm of human-robot interaction, showcasing the potential of integrating sophisticated technologies to create more intuitive and engaging experiences.