



IJITCE

ISSN 2347- 3657

International Journal of Information Technology & Computer Engineering

www.ijitce.com



Email : ijitce.editor@gmail.com or editor@ijitce.com

AN OVERVIEW OF AI POWERED HEALTH CARE

Ravuri Yogambica, 21PD1A0574, Department of CSE, West Godavari Institute Of Science and Engineering,
Andhra Pradesh, India.

Vudatta Gowthami Surya Naga Jyothi, 21PD1A0585, Department of CSE, West Godavari Institute Of
Science and Engineering, Andhra Pradesh, India.

Puchakayala Vara Prasad, 21PD1A0571, Department of CSE, West Godavari Institute Of Science and
Engineering, Andhra Pradesh, India.

Duvvapu Venkata Sri Naga Sri Ram, 21PD1A0521, Department of CSE, West Godavari Institute Of Science
and Engineering, Andhra Pradesh, India.

Dr. M.Aravind Kumar, Professor, Department of ECE, West Godavari Institute Of Science and Engineering,
Andhra Pradesh, India.

M.Chilakaiah, Assistant Professor, Department of CSE, West Godavari Institute Of Science and Engineering,
Andhra Pradesh, India.

ABSTRACT

AI-powered healthcare systems are transforming medical service delivery through advanced machine learning (ML) techniques, particularly by integrating Long Short-Term Memory (LSTM) networks and Random Forest models. This study presents a chatbot-based platform that leverages Natural Language Processing (NLP) to understand patient queries and provide real-time health advice, disease prevention tips, and personalized recommendations. LSTM models predict long-term health outcomes, while Random Forest aids in symptom-based diagnosis using patient history. The system proactively monitors chronic conditions, offers health guidance, and encourages healthier lifestyles, thereby enhancing preventive care, increasing patient engagement, and reducing healthcare costs.

INTRODUCTION

The healthcare chatbot is an automated system designed to interact with users in natural language to assist with medical diagnosis and aid. Leveraging vast online medical information, it provides accurate

and structured responses based on user inputs. Commonly used in areas like customer support, virtual assistance, and online training, this bot is tailored to engage patients, gather relevant details such as name, age, and symptoms, and progressively ask targeted questions for better diagnosis. It uses AIML (Artificial Intelligence Mark-up Language) built on XML to extract patterns from conversations, recognize symptoms, match them with a medical database, and suggest appropriate specialists if needed. The system has been evaluated against existing bots, aiming to offer a more efficient and user-friendly alternative in the field of medical assistance.

LITERATURE SURVEY

The following research articles are selected for review in the context of our project on Image Processing and Image Recognition: Flora Amato's paper explores the application of deep machine learning and artificial intelligence to create interactive applications that simulate doctor-patient interactions, utilizing the

Watson conversation service on the Blue Mix platform

[1]. Divya, Indumathi, Ishwarya, and Priyasankari propose a user dialogue-based system that extracts symptoms, maps them, and diagnoses whether the disease is major or minor

[2]. Additionally, Benilda Eleonor introduces Pharmabot, a pediatric medicine consultant chatbot, designed to recommend and provide information on generic medicines for children, using a Left and Right Parsing Algorithm to improve conversational accuracy and effectiveness.

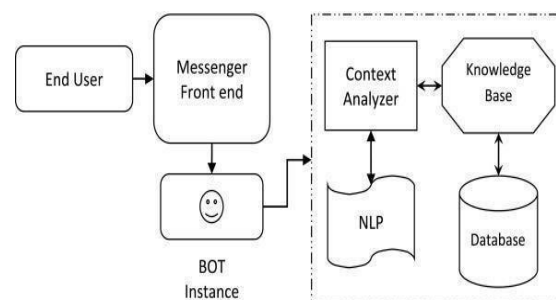
EXISTING SYSTEM

The system operates based on the conversational data provided by the user. The core idea is to focus on identifying the preliminary symptoms and issues the user may be experiencing. Once the automated medical chatbot has gathered sufficient information from the initial conversation, it proceeds by asking further questions to the user. It then analyzes the input data, converts it into queries, and processes them to review potential diseases.

PROPOSED SYSTEM

The proposed system introduces a machine learning-based chatbot that leverages Natural Language Processing (NLP) to interact with users. This chatbot is designed to understand and process user inputs in natural language, enabling it to effectively engage in conversations and provide relevant responses. By utilizing advanced NLP techniques, the chatbot can accurately interpret user queries, analyze the context, and offer personalized assistance, making it a valuable tool for various applications, including healthcare and customer support.

BLOCK DIAGRAM



SOFTWARE REQUIREMENTS

Operating system : Windows7. Or above

Coding Language : Python

Tool : Anaconda Navigator

HARDWARE REQUIREMENTS

System : i3core

Hard Disk :; 120 GB or above

Ram: 4 GB(min) or above

CONCLUSION

We have advanced in developing an automated medical chatbot that offers personalized symptom recognition. This bot utilizes an external, closed-source recognition engine. However, to enhance the diagnostic functionality, it may be necessary to either develop a custom engine from scratch or find another resource that supports further expansion, which could prove beneficial in the long term.

FUTURE SCOPE

The future scope of this project includes expanding the AI-based healthcare chatbot system by integrating a mobile assistant, which would offer additional functionalities and be accessible to a broader user base. This enhancement will improve efficiency, reducing response time while ensuring greater accuracy in the health data provided to doctors. Furthermore, the system can incorporate a biometric authentication process to enhance security, ensuring that patient information is accessed securely and accurately.

REFERENCES

[1]. Comendador, B. E., Francisco, B. M., Medenilla, J. S., Nacion, S. M., & Serac, T. B. (2015). Pharmabot: A Pediatric Generic Medicine Consultant Chatbot. *Journal of Automation and Control Engineering*, 3(2), 137-140. DOI: 10.12720/joace.3.2.137-140.

[2]. Kazi, H., Hameedullah, S. Chowdhry, B., & Memon, Z. (2012). MedChatBot: An UMLS-based Chatbot for Medical Students. *International Journal of Computer Applications*, 55, 1-5. DOI: 10.5120/8844-2886.

[3]. Shawar, B. A., & Atwell, E. (2002). A comparison between Alice and Elizabeth Chatbot systems. *The University of Leeds, School of Computing Research Report*, 2002.19.

[4]. Abu Shawar, B. A., & Atwell, E. S. (2004). An Arabic Chatbot giving answers from the Qur'an. In B. Bel & I. Marlien (Eds.), *Proceedings of TALN04: XI Conference sur le Traitement Automatique des Langues Naturelles* (pp. 197-202). Fez, Morocco: ATALA. ISBN: 2-9518233-5-5.