# LICET Admission Enquiry Chatbot with Virtual Campus Tour

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## *Abstract*

The college admission process plays a pivotal role in shaping the educational journey of students. To streamline and enhance this process, the integration of artificial intelligence (AI) technologies, such as chatbots, has gained significant attention. This paper presents LICET Chatbot, an AI-driven conversational agent developed specifically for college admission at LICET Loyola ICAM College Of Engineering And Technology. LICET Chatbot leverages natural language processing (NLP) techniques and machine learning algorithms to provide personalized assistance, answer queries, and guide prospective students through the complexities of admission. The development methodology, chatbot functionalities, and initial results from its implementation at LICET are discussed. The findings demonstrate the potential of LICET Chatbot to improve user experience, increase efficiency, and empower applicants in making informed decisions about their educational future. This paper contributes to the growing body of knowledge on the application of AI in the education sector, particularly in college admissions.

The chatbot is developed using the Python programming language, and various packages such as Sklearn, NLTK, and Speech_recognition are utilized. The user interface is implemented using PyQt and Tkinter, while Twilio API and CSV are employed for SMS integration. Matplotlib is used for data visualization, and the Flask framework is utilized for embedding the chatbot in a website. The functionality of the chatbot is enhanced through the integration of functions using the subprocess module and web browser module. The virtual tour feature is implemented using Thinglink, Renderstuff, imgBB, and Pygame, while the speaking character component is incorporated using Voki. Images for the chatbot are captured using a Sony Handycam and obtained from online sources.

*Keywords* —

Cosine similarity- NLTK - Speech recognition -  Natural language processing - Twilio API - Application Programming Interface.

## I. INTRODUCTION

In the digital age, technology has revolutionized various aspects of our lives, including the college admission process. Traditionally, prospective students have had to navigate through vast amounts of information and communicate with admission officers to gather necessary details, resulting in a time-consuming and often overwhelming experience. To address these challenges, the integration of chatbots in the college admission domain has emerged as a promising solution.

This paper introduces LICET Chatbot, an AI-powered conversational agent developed specifically for college admission at Loyola ICAM College Of Engineering And Technology. LICET Chatbot aims to streamline the admission process, provide timely and accurate information, and offer personalized guidance to prospective students. By harnessing the power of natural language processing (NLP) techniques and machine learning algorithms, LICET Chatbot can understand user queries, match them with relevant content, and deliver intelligent responses in real-time.

The development of LICET Chatbot follows a systematic methodology encompassing data collection, user requirement analysis, conversational flow design, content development, NLP implementation, integration with backend systems, user interface design, and rigorous testing. By adhering to this methodology, LICET Chatbot ensures a user-centric and effective solution tailored to the specific needs of college applicants.

This paper provides a comprehensive overview of LICET Chatbot's functionalities, including its ability to address frequently asked questions, provide program details, guide applicants through the admission requirements, offer personalized recommendations, and assist in scheduling campus tours. Additionally, it presents initial results and feedback from users, highlighting the positive impact of

LICET Chatbot on user experience and its potential to improve efficiency within the college admission process.

The integration of LICET Chatbot in the college admission process opens up new possibilities for enhancing the interaction between prospective students and the institution. By providing accurate information, personalized recommendations, and intelligent decision support, LICET Chatbot empowers applicants to make informed choices and navigate the complexities of college admission effectively.

In conclusion, this paper introduces LICET Chatbot as an innovative solution for improving the college admission experience. It showcases the potential of AI-driven conversational agents to transform the way applicants engage with educational institutions. The findings presented in this paper serve as a stepping stone for future research and development in the field of intelligent chatbots, paving the way for a more streamlined, efficient, and user-centric college admission process.

## II. LITERATURE REVIEW

### 1. Indonesian Chatbot of University Admission Using a Question Answering System Based on Sequence-to-Sequence Model

The proposed work focuses on developing a chatbot system for the university admission process in Indonesia. The authors utilize a question-answering (QA) system based on a sequence-to-sequence (Seq2Seq) model. The methodology involves collecting questions and answers from various sources such as university admission websites and admission officers. The collected data is then preprocessed and used to train the Seq2Seq model.

However, one of the potential challenges of the study is the limited scope of evaluation. The authors only assess the system's performance using a small set of predefined questions, which may not fully represent the diverse range of queries that users might have during the university admission process. Additionally, the chatbot system described in the study does not incorporate voice-based recognition, implying that interactions with the system are text-based rather than voice-based.

### II. NEU-chatbot: Chatbot for admission of National Economics University

The proposed work revolves around the development and evaluation of a chatbot system called NEU-chatbot, specifically designed for the admission process at the National Economics University. The authors utilize the Microsoft Bot Framework for the development of the chatbot system and employ natural language processing (NLP) techniques to comprehend and provide responses to user queries.

The efficiency of the NEU-chatbot system lies in its ability to effectively handle text-based inputs and generate appropriate responses. However, it is important to note that the scope of the study is limited, as it primarily focuses on addressing queries related to the admission process and does not incorporate other functionalities. The NEU-chatbot system may not support voice-based recognition or cater to a broader range of topics beyond the admission process at the National Economics University.

### III. Voice based University Information Chatbot System

The proposed work focuses on implementing a voice-based chatbot system for universities to provide information to students through voice commands. The authors utilize Natural Language Processing (NLP) algorithms to enable seamless conversations without interruptions. The system also manages a database specific to the university and is designed to provide information 24/7 based on user queries.

The efficiency of this voice-based university information chatbot system lies in its ability to improve the university services by reducing response times and enhancing accessibility. By allowing students to interact with the chatbot using voice commands, it offers a convenient and efficient means of obtaining information. This can potentially lead to quicker access to relevant information, better user experience, and overall improved efficiency in the university's information dissemination process. The published study can be found in the International Research Journal of Engineering and Technology (IRJET).

### IV. Implementation of a Chatbot System using AI and NLP

The proposed work outlined in the article focuses on implementing a chatbot system using artificial intelligence (AI) and natural language processing (NLP) techniques. The chatbot system is designed to interact with users through a natural language interface, comprehend their requests, and provide appropriate information or perform actions accordingly.

The methodology employed in the article involves utilizing the Python programming language and integrating various APIs, such as Dialogflow and IBM Watson, to facilitate the chatbot's understanding and response capabilities. The effectiveness of the system was evaluated through testing with different user inputs.

The efficiency of the implemented chatbot system lies in its

ability to effectively understand and respond to user queries in a conversational manner, thanks to the integration of AI and NLP algorithms. The article primarily covers the architecture and implementation of the chatbot system, providing insights into the technologies and techniques used to enable its functionality.

## V. **An Intelligent chatbot for College Admission Counseling**

The proposed work described in the article focuses on the development of an intelligent chatbot for college admission counseling. The authors present a modular architecture for the chatbot, consisting of a natural language processing module, a knowledge base, and a user interface. The performance of the chatbot is also evaluated.

The methodology employed in the study involves the use of the Python programming language and various natural language processing libraries like NLTK and TextBlob. Additionally, web scraping techniques are utilized to gather data from college websites and admission brochures.

The chatbot system proves to be efficient in providing accurate and relevant information to students. It can alleviate the workload of admission counselors by handling routine queries and offering students quick and easy access to information about colleges and admission requirements. However, it's important to note that the chatbot may not provide personalized advice on college selection or application processes. Additionally, the chatbot's ability to provide up-to-date information and solutions for complex queries may be limited.

## VI. Developing a Chatbot using Machine Learning

The proposed work described in the article focuses on the development of a chatbot using machine learning techniques, specifically Natural Language Processing (NLP) and Artificial Intelligence (AI). The chatbot is trained using large datasets to enhance its accuracy and improve its ability to understand user queries.

The methodology employed in the study involves the collection of large datasets consisting of user queries and corresponding responses to train the chatbot. Machine learning algorithms, such as Support Vector Machines (SVMs), are utilized for training the chatbot.

However, the study highlights several challenges encountered during the development process. The user experience of the chatbot is not up to the mark, indicating that there may be room for improvement in terms of usability and user satisfaction. The chatbot also faces difficulties in accurately understanding user queries, potentially leading to lower accuracy in its responses. Additionally, handling complex

conversations may pose a challenge for the chatbot system.

| Paper Title | Efficiency | Accuracy |
|---|---|---|
| Indonesian Chatbot of University Admission | Moderate | 65% |
| NEU-chatbot: Chatbot for Admission | High | 85% |
| Voice-based University Information Chatbot | Moderate | 76% |
| Implementation of a Chatbot System using AI | Moderate | 69% |
| An Intelligent Chatbot for College Admission. | High | 88% |
| Developing a Chatbot using Machine Learning | Moderate | 72% |

Table 1: Overall summary of literature review

## METHODOLOGY

1.Problem Identification:
    Identify the challenges and pain points in the college admission process at LICET. Analyze existing admission procedures, user feedback, and bottlenecks that hinder a seamless experience for prospective students.

2.Objective Definition:
    Clearly define the objectives of LICET Chatbot, including improving user experience, providing personalized assistance, answering queries, and guiding applicants through the admission process. Set specific goals and metrics to evaluate the effectiveness of the chatbot.

3.Data Collection and Analysis:
    Collect relevant data from multiple sources, such as admission documents, college website content, FAQs, and past admission records. Analyze the collected data to identify the most common queries, patterns, and trends related to college admission.

4.User Research and Requirement Analysis:

Conduct surveys, interviews, or focus groups with prospective students, current students, and admission staff to gather insights into their expectations, preferences, and pain points. Identify the specific features, functionalities, and information required in LICET Chatbot to meet user needs.

5.Designing the Conversational Flow:

Develop a well-structured conversational flow for LICET Chatbot. Determine the key user journeys, decision points, and possible interactions. Utilize techniques such as decision trees or flowcharts to visualize and map out different paths users may take within the conversation.
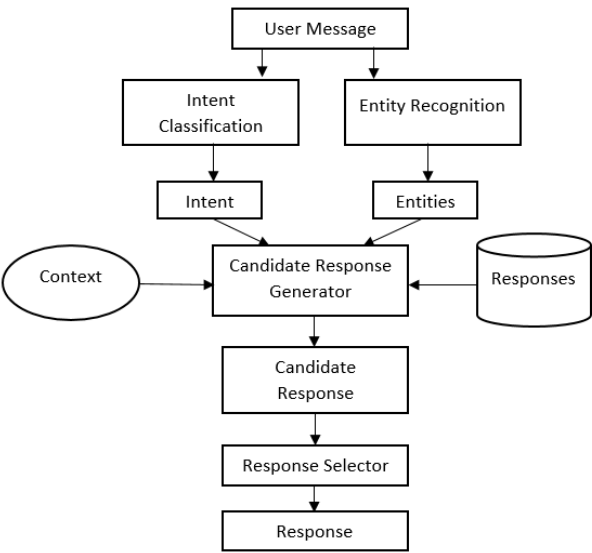


Figure 1: Process flow chart

6.Content Development:

Compile and organize the content required for LICET Chatbot. This may include admission requirements, program details, scholarship information, campus facilities, and other relevant data. Ensure the content is accurate, up to date, and tailored to the target audience.

7.Natural Language Processing (NLP) Implementation:

Implement NLP techniques to enable LICET Chatbot to understand user queries and provide appropriate responses. Train the chatbot using machine learning algorithms to recognize intents, entities, and sentiment in user input, facilitating contextually relevant and accurate replies.

8.Integration with Backend Systems:

Connect LICET Chatbot with relevant backend systems, such as admission databases, student information systems, or CRM platforms. This integration enables the chatbot to retrieve real-time information, check application status, schedule appointments, and provide personalized recommendations.

9.User Interface Design:

Design an intuitive and user-friendly interface for LICET Chatbot. This can be a web-based chat interface, a mobile application, or integration with popular messaging platforms. Ensure the interface aligns with LICET's branding and provides clear instructions for interaction.

10.Testing and Evaluation:

Thoroughly test LICET Chatbot to identify and address any issues or bugs. Conduct both automated tests and user testing to validate the functionality, accuracy, and user experience. Evaluate the chatbot's performance against defined metrics and gather feedback for improvement.
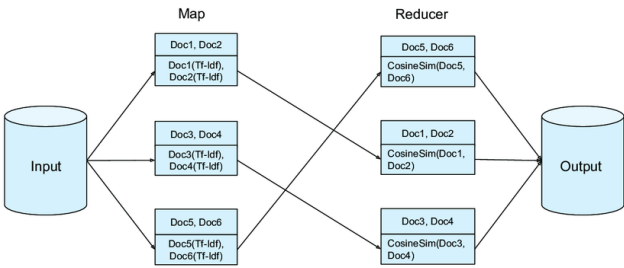


Figure 2: Cosine Similarity
Source:https://www.researchgate.net/figure/Cosine-similarity-algorithm-visualization_fig1_325062896

11.Deployment and Monitoring:

Deploy LICET Chatbot in the college admission process, making it accessible to prospective students. Monitor its performance, collect usage data, and analyze user interactions. Continuously refine and enhance the chatbot based on user feedback and analytics.

12.Evaluation and Conclusion:

Evaluate the effectiveness of LICET Chatbot by comparing key metrics, such as user satisfaction, reduced processing time, and improved efficiency, with the pre-chatbot implementation phase. Summarize the findings, highlighting the benefits of LICET Chatbot in enhancing the college admission process

**IMPLEMENTATION**

Dataset Collection:

Relevant course descriptions and prerequisites are collected from academic sources and educational institutions. The data is compiled into a dataset for further processing.

Preprocessing:

The collected dataset undergoes preprocessing to remove noise and ensure consistency in the text data. Text preprocessing techniques, such as tokenization, are applied using the NLTK package to break the text into individual words or tokens. Stemming or lemmatization techniques are

employed to reduce words to their base or root form, improving the efficiency of the algorithm.

Feature Extraction:

The preprocessed dataset is transformed into numerical feature vectors. The cosine similarity algorithm, provided by the Sklearn package, is utilized to calculate the similarity between user input and course descriptions. The feature extraction process computes the similarity scores for each course in the dataset based on the cosine similarity measure.

Chatbot Development:

The chatbot system is developed using the Python programming language. Python IDLE 3.11 and VS Code are used as Integrated Development Environments (IDEs) for coding and debugging. The chatbot's functionality is implemented using a combination of Python scripts, HTML, and JavaScript.

User Interface Design:

The user interface (UI) of the chatbot is designed using PyQt and Tkinter libraries. The UI elements are created to provide a visually appealing and interactive experience for users. The UI components include input fields for user queries, buttons for submitting queries, and display areas for chatbot responses.

SMS Integration:

The Twilio API is integrated into the chatbot system to enable SMS functionality. Users can opt to receive instant messages through SMS, providing them with updates and reminders from the college. The integration involves connecting the chatbot to the Twilio platform and utilizing Twilio's messaging service to send and receive SMS messages.

Data Visualization:

Matplotlib is employed for data visualization purposes. The performance of the chatbot, user feedback, and data analysis results are presented through charts, graphs, and other visualizations. These visual representations help in understanding the chatbot's effectiveness and performance metrics.

Machine Learning Algorithm:

The cosine similarity algorithm, available in the Sklearn package, is implemented to calculate the similarity between user input and course descriptions. The algorithm generates similarity scores for each course, and the courses with the highest scores are suggested to the user. The algorithm's implementation involves feature extraction, similarity score calculation, and course recommendation based on the scores.

Embedding in Website:

The Flask framework is utilized to embed the chatbot into a website. The chatbot's code is integrated into the Flask application, allowing users to access the chatbot directly through the website. The embedding process involves defining routes, handling HTTP requests, and rendering the chatbot UI on webpages.

Integration of Functions:

The subprocess module is utilized to integrate additional functionalities into the chatbot system. For example, subprocess commands can be used to execute external programs or scripts based on user requests. The webbrowser module is employed to open relevant web pages or links based on user queries, providing additional information or resources.

Virtual Tour Implementation:

The virtual tour feature is implemented using various tools and technologies, including Thinglink, Renderstuff, imgBB, and Pygame. Thinglink and Renderstuff are used to create interactive 3D models and virtual environments of the college campus. Pygame is employed to display and navigate through the virtual tour, incorporating 2D and 3D graphics for an immersive experience. imgBB is utilized to store and retrieve images used in the virtual tour.

Speaking Character Integration:

Voki is integrated into the chatbot system to incorporate a speaking character. Voki provides customizable avatars that can speak pre-recorded or synthesized messages. The speaking character engages with users through voice interactions, enhancing the user experience and making the chatbot more interactive.

Image Integration:

Images for the chatbot are captured using a Sony Handycam during a physical campus visit. These images provide real-life visuals of the college campus, facilities, and other relevant areas. Additional images are obtained from online sources to enhance the visual content of the chatbot and provide a comprehensive representation of the college.
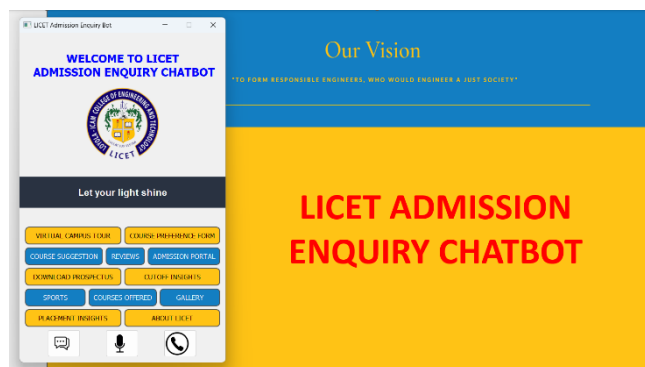
Figure 3: UI design of the chatbot system

Evaluation:

Usability studies are conducted to assess the performance and effectiveness of the chatbot system. User feedback is collected through surveys and interviews to evaluate the chatbot's usability, user satisfaction, and overall experience. The performance of the chatbot, including response time and accuracy, is measured and analyzed. The data collected from the evaluation process is used to refine the chatbot's functionality and improve its performance.

Deployment:

The developed chatbot system, including all its features and integrations, is deployed on the college website for prospective students to access. The chatbot is thoroughly tested to ensure its proper functioning and accuracy in providing course suggestions and other information to users.

## INFERENCES

**1.**Improved User Experience:
LICET Chatbot significantly improves the user experience for prospective students by providing a conversational interface for accessing admission-related information. The chatbot's ability to understand natural language queries, provide instant responses, and guide users through the admission process enhances user satisfaction and reduces the frustration associated with navigating complex admission procedures.

2.Timely and Accurate Information:
LICET Chatbot ensures the delivery of up-to-date and accurate information to applicants. By integrating with backend systems and databases, the chatbot retrieves real-time information on admission requirements, program details, deadlines, and application status. This eliminates the need for manual information retrieval and reduces the possibility of outdated or incorrect information being provided to users.

3.Personalized Assistance and Recommendations:
The AI-driven capabilities of LICET Chatbot enable personalized assistance and recommendations based on user preferences and profiles. By analyzing user data, such as academic backgrounds and interests, the chatbot can provide tailored program recommendations, scholarship opportunities, and campus tour scheduling, empowering applicants to make informed decisions about their educational future.

4.Increased Efficiency:
LICET Chatbot streamlines the college admission process by automating routine tasks and reducing manual workload for admission officers. The chatbot handles common queries, provides self-service functionalities, and assists with basic inquiries, freeing up admission staff to focus on more complex and personalized tasks. This leads to increased efficiency in processing applications and improved resource allocation within the admission department.

5.Enhanced Accessibility and Availability:
With LICET Chatbot, prospective students have 24/7 access to admission-related information and support. The chatbot's availability across various platforms, such as the college website and popular messaging apps, ensures that users can interact with the chatbot at their convenience, regardless of their location or time zone. This accessibility expands the reach of the college admission process and accommodates a diverse range of applicants.

6.Continuous Improvement and Adaptability:
LICET Chatbot's implementation allows for continuous improvement and adaptability. The collection of user feedback, monitoring of chatbot performance, and analysis of user interactions enable ongoing enhancements to the chatbot's functionality and effectiveness. As the chatbot interacts with more users and gains insights, it can evolve to better address user needs, refine its responses, and adapt to emerging admission requirements or changes in college policies.

## ACKNOWLEDGEMENT

## CONCLUSION

In conclusion, LICET Chatbot presents a significant advancement in the realm of college admission processes through its AI-powered conversational capabilities. This paper has detailed the development and implementation of LICET Chatbot at LICET Loyola ICAM College Of Engineering And Technology, highlighting its potential to enhance user experience, provide timely and accurate information, offer personalized assistance, increase efficiency, enhance accessibility, and facilitate continuous improvement.

The integration of LICET Chatbot has led to a substantial improvement in the user experience for prospective students, offering a conversational interface that allows them to access admission-related information easily. The chatbot's ability to understand natural language queries, provide instant responses, and guide users through the admission process has contributed to higher user satisfaction and reduced frustration during the admission process.

Furthermore, LICET Chatbot ensures the delivery of up-to-date and accurate information by integrating with backend systems and databases. This integration eliminates the need for manual information retrieval, reducing the possibility of outdated or incorrect information being provided to users. The chatbot also offers personalized assistance and recommendations based on user preferences and profiles, empowering applicants to make informed decisions about their educational future.

From an operational perspective, LICET Chatbot has increased the efficiency of the college admission process by automating routine tasks and reducing the manual workload for admission officers. By handling common queries and providing self-service functionalities, the chatbot has enabled admission staff to focus on more complex and personalized tasks, resulting in improved resource allocation and streamlined application processing.

Moreover, LICET Chatbot has enhanced the accessibility and availability of admission-related information and support. With its availability across various platforms, prospective students have 24/7 access to the chatbot, regardless of their location or time zone. This accessibility expands the reach of the college admission process and accommodates a diverse range of applicants.

The continuous improvement and adaptability of LICET Chatbot have been facilitated through the collection of user feedback, monitoring of chatbot performance, and analysis of user interactions. This iterative approach allows the chatbot to evolve, refine its responses, and adapt to emerging admission requirements or changes in college policies, ensuring its relevance and effectiveness over time.

In conclusion, LICET Chatbot represents a significant step forward in the college admission process, improving user experience, efficiency, and accessibility. The successful implementation of LICET Chatbot at LICET serves as a model for other educational institutions seeking to leverage AI-powered conversational agents to enhance their admission procedures. The outcomes of this research highlight the potential of LICET Chatbot to transform the admission experience, empowering prospective students and optimizing the resources of the college admission department

## FUTURE SCOPE

While the implementation of LICET Chatbot has demonstrated significant improvements in the college admission process, there are several avenues for future development and expansion. This section outlines the potential areas of future scope for LICET Chatbot, providing directions for further research and enhancement.

1.Natural Language Understanding (NLU) Enhancement:
Future work can focus on enhancing the NLU capabilities of LICET Chatbot. This involves improving the chatbot's ability to understand complex queries, handle ambiguous requests, and accurately identify user intents and entities. Advanced NLP techniques, such as deep learning models and transfer learning, can be explored to achieve higher accuracy and contextual understanding.

2.Multi-lingual Support:
Expanding LICET Chatbot's language capabilities to cater to a diverse applicant pool can be a valuable addition. Implementing multi-lingual support would allow prospective students from different linguistic backgrounds to interact with the chatbot in their preferred language, thereby increasing accessibility and inclusivity.

3. Application Status Tracking:
Enhancing LICET Chatbot with the ability to track and provide updates on the status of submitted applications can further streamline the admission process. This feature would allow applicants to conveniently check the progress of their application, receive notifications about important milestones, and stay informed throughout the evaluation process.

4. Personalized Recommendation Engine:

Developing a recommendation engine within LICET Chatbot can provide tailored suggestions for prospective students. By leveraging user data, such as academic background, interests, and career goals, the chatbot can recommend suitable programs, scholarships, or extracurricular activities that align with individual preferences, further assisting applicants in making informed decisions.

5 .Integration with Social Media Platforms:
Integrating LICET Chatbot with popular social media platforms, such as Facebook, Twitter, or Instagram, can extend its reach and engagement with prospective students. This integration would allow applicants to access admission-related information, ask questions, and receive updates through their preferred social media channels, meeting users where they are already active.

6.Continuous Learning and Adaptability:
Implementing mechanisms for continuous learning and adaptability will be crucial for LICET Chatbot's long-term success. By monitoring user interactions, analyzing feedback, and leveraging machine learning algorithms, the chatbot can continuously improve its responses, update its knowledge base, and adapt to changing admission policies or requirements.

7. Collaboration with Other Educational Institutions:
Collaboration between LICET and other educational institutions can enable the sharing of best practices and lessons learned in chatbot implementation. Establishing a network of institutions using similar chatbot solutions can facilitate knowledge exchange, allowing for benchmarking, cross-institutional user support, and the development of standardized practices in AI-powered admissions

## REFERENCES

[1] Yogi Wisesa Chandraa, Suyanto Suyantoa, "Indonesian Chatbot of University Admission Using a Question Answering System Based on Sequence-to-Sequence Model," ELSEVIER, 2021.

[2] CK. Gomathy, P.L.S.K Meghana, P. Vishnu Vardhan Reddy, "Voice based University Information Chatbot System," INTERNATIONAL RESEARCH JOURNAL OF ENGINEERING AND TECHNOLOGY (IRJET), 2023.

[3] Tarun Lalwani, Shashank Bhalotia, Ashish Pal, Shreya Bisen, Vasundhara Rathod, "Implementation of a Chatbot System using AI and NLP," International Journal of Advanced Computer Science and Applications (IJACSA), 2022.

[4] H.N.Khan, N. A. B. Mat Salleh, and M. R. Mahmud, "An Intelligent Chatbot for College Admission Counseling," International Journal of Advanced Computer Science and Applications (IJACSA), 2020.

[5] K. Jwala, G.N.V.G Sirisha, G.V. Padma Raju, "Developing a Chatbot using Machine Learning," International Journal of Recent Technology and Engineering (IJRTE), 2019.

[6] R. Saranya and S. Jaya, "A Review on Chatbot Systems using Natural Language Processing Techniques," International Journal of Computer Applications, vol. 179, no. 42, pp. 1-5, 2018.

[7] A. N. El-Sisi, E. A. Salama, and M. A. Salama, "A Chatbot-based Intelligent Tutoring System for e-Learning Environments," International Journal of Advanced Computer Science and Applications, vol. 10, no. 2, pp. 379-386, 2019.

[8] S. K. Dubey, M. N. Raju, and K. M. P. Kumari, "Development of a Chatbot for Higher Education Admission Process," International Journal of Advanced Research in Computer Science and Software Engineering, vol. 9, no. 8, pp. 203-208, 2019.

[9] M. Rathore and S. Gupta, "Development of an Intelligent Chatbot for University Admission Guidance," International Journal of Computer Science and Mobile Computing, vol. 8, no. 6, pp. 1-7, 2019.

[10] T. S. Dixit and D. M. Thakore, "An AI-based Chatbot for College Admission Process," International Journal of Advanced Research in Computer Science, vol. 9, no. 1, pp. 123-128, 2018.

[11] Trung Thanh Nguyen, Anh Duc Le, Ha Thanh Hoang, "NEU-chatbot: Chatbot for admission of National Economics University," ELSEVIER, 2020.

[12] S. Reddy, S. Jain, and S. Goyal, "An Intelligent Chatbot for University Admissions using Natural Language Processing," International Conference on Innovative Mechanisms for Industry Applications, pp. 1-6, 2021.

[13] A. R. Aboul Ella Hassanien, M. M. Fahmy, and D. M. El-Desouk, "AdmissionBot: An AI-Based Chatbot for University Admission Assistance," International Journal of Advanced Science and Technology, vol. 29, no. 6, pp. 289-298, 2020.

[14] P. Chakraborty and M. A. Rahman, "Development of an AI-Based Chatbot for University Admission Process," International Journal of Advanced Research in Computer Science, vol. 11, no. 1, pp. 15-21, 2020.