

Chatbot Design for Interview Questions Using Neural Network Models on the CarTech Website

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Submitted :23 Feb 2024| **Accepted** : 25 Mar, 2024| **Published** : Apr 5, 2024

Abstract: This research focuses on analyzing interview questions using a neural network model, implemented on the CarTech website. With the main aim of optimizing the interaction between users and the system through the questions asked, this research takes an innovative step by utilizing Google Collab as a development platform. For this research, several paragraphs were carried out, namely problem scoping, data acquisition, data exploration, modeling, evaluation, and deployment. These stages were carried out so that this research could get good results, plus the integration between Google Collab and chatbot which made it possible for this research to get good results. Google Collab makes it easy to use neural network models and integrate with chatbots, enabling efficient and effective testing and deployment of models. The results of this study are quite impressive, with an accuracy of 98%, demonstrating the model's ability to process and understand interview questions with high precision. The aim of this research is not only to explore the potential of neural network models in automatically understanding questions and providing accurate responses, but also to show how this technology can be integrated into web applications to improve the quality of user interactions, making AI-based chatbots a viable solution and effective in improving user experience on the CarTech website. In conclusion, by utilizing AI you will also get good results. As in this research, AI can help analyze interview questions with neural network models.

Keywords: AI; CharTech; Chatbot; Google Colab; Neural Network

INTRODUCTION

Artificial intelligence (AI) is a branch of computer science that focuses on creating systems that can imitate or surpass human intellectual abilities in various aspects, such as learning, language understanding, decision making, and pattern recognition. AI technology combines advanced algorithms, machine learning, and neural networks to process and analyze large amounts of data with great speed and accuracy, allowing machines to “learn” from experience, adapt to new input, and perform specific tasks without human direction explicit one. Applied in areas such as health, education, finance, and automotive, AI unlocks tremendous innovation potential, providing solutions to complex problems, improving operational efficiency, and creating more personalized and interactive user experiences. As these technologies develop, AI continues to promise a profound transformation in the way we work, learn, and interact in everyday life.

Chatbot, an artificial intelligence-based application, is designed to simulate human conversation via text or voice, enabling efficient interaction between humans and machines. This technology is integrated into a variety of online platforms, from customer service websites to instant messaging applications, providing fast and accurate automated responses to user questions. With the ability to learn from previous interactions and improve their performance incrementally, chatbots help companies improve the quality of customer service, reduce wait times, and optimize operations by automating routine tasks. In this digital era, chatbots have become an important tool in business strategy, providing significant added value by enriching the user experience and supporting diverse communication needs.

To collect effective questions for an interview is often not a simple task, as each question must not only be relevant to the topic being discussed but must also be interrelated to ensure the smoothness and depth of the discussion. In facing this challenge, this researcher decided to develop a chatbot specifically designed to design interview questions, using the Neural Network model, on the Cartech Website. The aim of this research is to create

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a system that can automatically generate coherent and contextual interview questions, based on the given topic input. By using Neural Network technology, this chatbot is expected to be able to understand the nuances of various interview topics and dynamically generate questions that are not only relevant but also support the smooth running of the interview, making it easier for users to collect and compile a series of effective and structured questions for various interview purposes on the Cartech Website.

Neural Network models are advanced technology in the field of artificial intelligence that mimic how neurons work in the human brain, allowing machines to learn from data and experience. With layers of interconnected artificial neurons, these models can identify complex patterns and make predictions or decisions based on incoming data, making them highly effective for a variety of applications, from speech recognition to sentiment analysis. In the context of the Cartech Website, an online platform that provides the latest information, reviews and insights about automotive technology, the application of Neural Network models can change the way users get information. By integrating these models, Cartech can provide personalized recommendations, improve user engagement through more intuitive chatbots, and enrich the user experience with more relevant and interactive content. Thus, the combination of the Neural Network model and the Cartech Website opens up new opportunities in providing digital services that are innovative and responsive to user needs in an era of rapidly developing automotive technology.

LITERATURE REVIEW

Neural network models are computational mathematical structures that contain a series of connected probabilities in a multi-layer structure, offering a comprehensive approach to data processing (Khrisat & Alqadi, 2022) (Anggriandi, Utami, & Ariatmanto, 2023). We use a neural network to predict purchasing interest, with the Orange application as the main tool in data processing (Almasinejad, Golabpour, Ahouz, Reza, & Meybodi, 2022) (Firdaus, Yunardi, Agustin, & Putri, 2020). In this research, the author uses a neural network model to analyze interview questions with the help of Chatbot on Google Collab. (Priatna & Djamal, 2020) (Lestari, Mawengkang, & Situmorang, 2023). Research shows the superiority of neural networks in producing more precise data classification compared to other methods, making them the main choice for prediction and analysis of purchase intention (Chai, Wong, Goh, Wang, & Wang, 2019) (Suherman, Hindarto, Makmur, & Santoso, 2023). In practice, the dataset is divided into two parts: training data which is used as a reference for classification, and testing data, which is applied to validate the classification model (Baker, Mohammed, Aldabagh, & Mohammed, 2020) (Dharma, Sitorus, & Hatigoran, 2023). This neural network concept developed from the idea of Multilayer Perceptron (MLP), marking an evolution in data processing techniques (Rustam, Yuda, Alatas, & Aroef, 2020).

Research (Suherman et al., 2023) also showed that the neural network method could carry out detection on plants, the accuracy obtained was also very good, namely 98%. This states that the neural technology method is a very good method for carrying out analysis such as detection. In applying the neural network model, the author also uses a chatbot. Chatbots are software applications designed to simulate conversations with human users via text or voice, using artificial intelligence to understand questions and provide responses automatically (Taufik, 2023). From the meaning of chatbot, chatbot has many functions and benefits, one of which is research (Sovia, Syaifullah, Yenila, & Permana, 2023) that chatbot can be used as a tourist attraction helpdesk with the help of the Naive Bayes method. Research (Wintoro, Hermawan, Muda, & Mulyani, 2022) shows that chatbots can also help organizations get the answers they need. The same thing as in this research is that Chatbot is used to analyze interview questions. But also the existence of neural network models can help well. In research conducted by (Lestari et al., 2023) the neural network method can be used to analyze TB disease. The accuracy results obtained were also very good, namely 81%. Not only that, research (Anwar, Jalinus, & Abdullah, 2023) shows that neural network methods can be used to help web-based systems to disseminate information about the weather.

METHOD

In this research the author uses the Neural Network model to carry out analysis. So there will be several stages carried out for this, there are several stages carried out by the author so that this research can be carried out well, namely as follows.

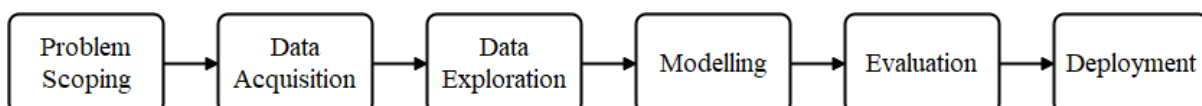


Fig 1. Neural Network Model Workflow

Problem Scoping

This stage is the stage carried out to determine the type of questions needed. This is done so that the interview questions comply with existing regulations. In this case, someone will look for questions that will later become context or discussion in conducting the interview. This is done to make things easier for someone when they are in an interview. Because sometimes someone is still confused when asked interview questions.

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Data Acquisition

Data Acquisition is the stage of collecting as much data as possible and which is relevant to the AI project being built. The more data collected, the better, this will help the model learn the data in the data training process to get good accuracy results. So for this stage too, after someone obtains the desired data, as much data will be collected as possible. This is done to make it easier for someone when conducting an interview. Moreover, when someone is asked, sometimes there are still people who tremble when asked during the interview.

Data Exploration

Pada tahapan ini merupakan tahapan penyaringan dan pembersihan data, hal ini dilakukan agar data yang diperoleh benar-benar cocok dan sesuai dengan kebutuhan wawancara. Tahapan ini juga biasa dikenal dengan tahapan Preprocessing data. Jadi setelah data diperoleh, seseorang tidak langsung dapat digunakan, hal ini perlu diketahui bahwa dia harus menyaring data tersebut sesuai dengan kebutuhannya, missal Ketika diam au melakukan interview di PT.Pertamina, maka yang harus dia kumpulkan adalah data wawancara PT.Pertamina.

Modelling

This stage is the stage carried out to design and build the system that will be used in this research using the Neural Network model. Usually, when someone is asked a question, it is still difficult to answer the question, so a model is designed so that the question data that has been obtained can provide an answer from the model created.

Evaluation

After the modeling process is carried out, it continues to the evaluation stage to compare the results between accuracy and loss with a visualization plot that displays the evaluation results with good fitting. This evaluation is a performance test of the method used. So at this stage, the author will see and determine the capabilities of the method used.

Deployment

Stages for implementing and releasing the model selected at the model evaluation stage to become an application on a particular platform according to needs. At this stage, someone will use the model that has been designed, in order to test the model, whether it can be used well or not.

RESULT

Problem Scoping

At this stage the author will determine the type of interview questions needed so that the questions can be used. The types of questions that will be needed are as follows.

Table 1 Types of Interview Questions

<i>What</i>	There are problems experienced by job seekers in facing a job interview at the company they are applying for.
<i>Who</i>	The objects experiencing problems with this problem are job seekers/Job Seeker.
<i>Where</i>	Preparation for a job interview.
<i>Why</i>	Referring to existing problems, the author wants better job absorption and job seekers get the jobs they want.

In the table above are the types of questions that will be needed for this research. So the types of questions above will later be obtained from the research results.

Data Acquisition

Data Acquisition is the stage of collecting as much data as possible and which is relevant to the AI project being built. The more data collected, the better, this will help the model learn the data in the data training process to get good accuracy results. There are various methods that can be used to search for and collect data that will be used as a dataset. This stage was carried out on Google Collab using the Neural Network model and with a chatbot. The results of the questions obtained are as follows.

Table 2 Result of the Data Acquisition

Question Results
1. "What made you interested in working at PT. Pertamina?"
2. "Who inspires you in your career and why?"
3. "Why do you think you are suitable for the position you are applying for at our company?"
4. "Where do you see yourself five years from now?"

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5. "What related experience do you have for this position?"
6. "How do you resolve conflict in a team?"
7. "What do you do to continue developing your professional skills?"
8. "How do you approach facing a tight deadline?"
9. "Which leader do you admire and why?"
10. "What is the biggest challenge you have faced at work and how did you overcome it?"
11. "What is your biggest achievement so far?"
12. "Why do you think innovation is important in an industry like PT. Pertamina?"
13. "What do you know about PT. Pertamina and the energy industry in general?"
14. "How do you rate success in your work?"
15. "What will you do in your first 100 days of work here?"
16. "How do you contribute to a positive work environment?"
17. "What is your experience working with diverse teams?"
18. "How do you ensure the quality of your work?"
19. "Why is customer satisfaction important and how do you achieve it?"
20. "How do you deal with failure?"

Data Exploration

After the dataset is obtained, the data is not immediately processed to be used as material for modeling. However, this data must go through a filtering and cleaning process in order to obtain data that is truly suitable and in accordance with the application model that will be run or commonly known as Data Preprocessing.

Table 3. Result of The Data Exploration

Question Results
What made you interested in working at PT. Pertamina?
Who is your inspiration in your career and why?
Why do you feel suitable for the position you are applying for in our company?
Where do you see yourself five years from now?
What related experience do you have for this position?
How do you deal with conflict in a team?
What do you do to continue developing your professional skills?
What is your approach in facing tight deadlines?
Who are the leaders you admire and why?
What is the biggest challenge you have faced at work and how did you overcome it?
What is your biggest achievement so far?
Why do you think innovation is important in an industry like PT. Pertamina?
What do you know about PT. Pertamina and the energy industry in general?
How do you assess success in your work?
What will you do in your first 100 days of work here?
How do you contribute to a positive work environment?
What is your experience working with diverse teams?
How do you ensure the quality of your work?
Why is customer satisfaction important and how do you achieve it?
How do you deal with failure?

Modeling

The process carried out at this stage is model creation and compilation and model training. The model used is the Neural Network Model.

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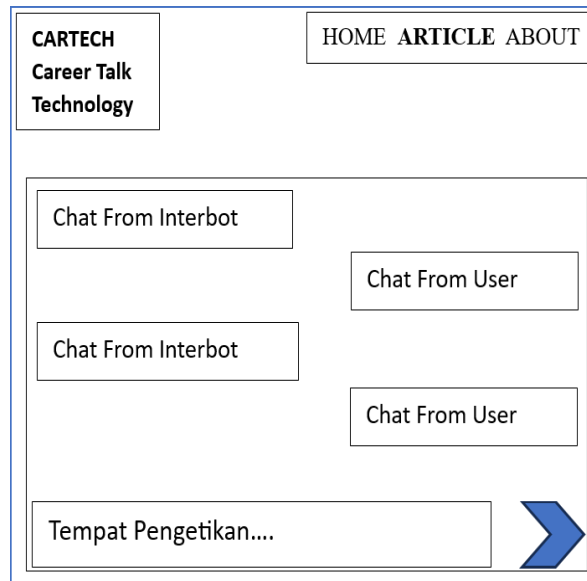


Fig 2. Desain Model pada Website Chartech

In the image above is a Chatbot design created using the Neural Network model on the Cartech Website. The image above will later be used to process interview questions. For the 20 interview questions previously obtained, these questions will later be entered into CharTech. In the display above, questions can be entered and the results of the interview questions will be obtained.

The results of the previous interview questions will be entered on the CharTech website, these results will then provide answers to the questions entered on the CharTech website. The results can be seen in the table below.

Table 4.
Interview Question Answer Results

Results of Interview Questions using the CharTech Website	
What made you interested in working at PT. Pertamina?	I am interested in working at PT. Pertamina because this company has an important role in the Indonesian energy industry, makes a major contribution to the country's economic and social development. As a national energy company, Pertamina not only focuses on business growth but also on sustainable development, innovation and application of environmentally friendly technology. These values are in line with my personal commitment to continuous professional development and desire to contribute to environmental conservation efforts and community empowerment. Working at Pertamina provides a unique opportunity to be directly involved in innovative and impactful projects, as well as the opportunity to develop with a company that has a vision to become a world-class energy player.
Who is your inspiration in your career and why?	My inspiration in my career is Elon Musk, a visionary and innovator in the fields of technology and space exploration. Musk's dedication to sustainable technology development and his efforts to solve global problems, such as climate change through renewable energy and ambition to make multi-planetary life a reality, motivates me to think big and take risks. The way he overcomes challenges, never giving up even in the face of criticism and failure, teaches the importance of perseverance and unlimited innovation in achieving goals. Musk proved that with a clear vision and hard work, any limitation can be overcome, and this is a principle I live by in pursuing my career aspirations.
Why do you feel suitable for the position you are applying for in our company?	I feel that I am suitable for the position I am applying for at your company because my educational background and work experience align with the qualifications required for this role. With my expertise in [insert area of expertise], coupled with my ability to [insert specific skill], I believe I can make a significant contribution. I also really appreciate your company values and vision focused on [insert company value or vision], which really resonate with my professional and personal aspirations. The combination of my ability to adapt and learn quickly, along with a strong desire to contribute to the team and achieve shared goals, makes me confident that I will be a valuable addition to your team.
Where do you see yourself five years from now?	Five years from now, I see myself having grown professionally and personally, reaching a leadership position in my area of expertise. I hope to have completed several innovative projects that will have a significant impact, expand my knowledge and skills, and contribute to the advancement of the industry. I also desire to build a strong professional network, learn from mentors and peers, and provide guidance to future generations. More than that, I hope to find a harmonious balance between my professional career, personal life, and activities outside of work, allowing me to live a fulfilling and meaningful life.
What related experience do you have for this position?	Previously, I had worked on several projects that were highly relevant to the position offered, including web-based application development and data processing using artificial intelligence technology. I played a key role in the design and implementation of a chatbot system for a startup company, where I was responsible for API integration, data modeling, and development of artificial

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	intelligence algorithms to improve the accuracy of chatbot responses. This experience, combined with my strong background in Python programming and my mastery of frameworks such as TensorFlow and PyTorch, makes me very confident in my ability to make significant contributions in this position, particularly in developing and improving artificial intelligence-based solutions.
How do you deal with conflict in a team?	In dealing with conflict in the team, I prioritize a communicative and empathetic approach. First, I make sure to listen to all perspectives carefully, acknowledging every feeling and opinion involved without prejudice. I then encourage open and honest discussion, getting to the root of the problem to better understand the dispute. Using mediation techniques, I work with team members to find a compromise solution that is fair and satisfactory to all parties. I believe in maintaining an inclusive and supportive work environment, where every member feels valued and heard, thereby minimizing the potential for future conflict and strengthening teamwork.
What do you do to continue developing your professional skills?	To continue developing my professional skills, I am actively involved in various lifelong learning activities. This includes taking the latest online courses in my area of expertise, attending webinars and workshops offered by industry professionals, and reading the latest literature in my field to stay updated with new trends and technologies. I also participate in professional forums and social networks to exchange knowledge and experiences with colleagues in the profession. In addition, I apply new knowledge in practical projects, both at work and in personal projects, to strengthen my understanding and skills practically. This holistic approach allows me to continue to grow and stay relevant in a fast-changing industry.
What is your approach in facing tight deadlines?	In the face of tight deadlines, my approach involves careful planning and prioritization, along with effective communication. First, I divide the project into small, manageable tasks, setting priorities based on the urgency and importance of each task. This allows me to focus on what needs to be done first, while also providing the flexibility to adjust plans if unexpected things arise. I also make sure to communicate openly with the team or stakeholders about progress and potential roadblocks, seeking additional support or resources when necessary. By maintaining good organization and a proactive attitude, I successfully navigated tight deadlines reducing stress and ensuring a quality end result.
Who are the leaders you admire and why?	The leader I admire is Nelson Mandela because of his determination and dedication to fighting for justice and equality. Despite facing extraordinary challenges, including 27 years in prison, Mandela remained committed to his principles and vision of a democratic society free from racial segregation. His leadership not only succeeded in ending apartheid in South Africa but also inspired many people around the world to fight for civil rights and freedom without using violence. Mandela showed that courage, forgiveness and love can overcome hatred and injustice, making him a global symbol of peace and reconciliation.
What is the biggest challenge you have faced at work and how did you overcome it?	The biggest challenge I have faced at work is managing projects with very tight deadlines while ensuring the quality of the work remains high. To combat this, I adopted a more structured project management approach, prioritizing tasks based on their urgency and relevance, and actively communicating with my team to ensure all members understood their roles and could work efficiently. I also implemented regular evaluation sessions to monitor progress and adjust strategies if necessary. Through close teamwork and flexible strategy adaptation, we managed to complete the project on time and received recognition from management for our success.
What is your biggest achievement so far?	My biggest achievement so far is successfully designing and developing a sophisticated recommendation system using machine learning techniques for a large e-commerce platform. This system succeeded in significantly increasing sales and customer satisfaction, by displaying relevant products based on the user's shopping history and preferences. Through hard work and team collaboration, we were able to overcome complex technical challenges and implement this solution, which is now one of the key features that differentiates our platform from competitors. The success of this project not only has a positive impact on the company in terms of increasing revenue, but also provides a more personalized and satisfying shopping experience for users, which for me is a very proud achievement.
Why do you think innovation is important in an industry like PT. Pertamina?	Innovation is very important in industries such as PT. Pertamina because it allows the company to continue to improve operational efficiency, reduce costs, and develop cleaner and more sustainable energy solutions. In a rapidly changing and competitive market environment, innovation ensures Pertamina remains relevant, meets evolving customer needs, and overcomes global environmental challenges. In addition, innovation opens up new opportunities for product and service diversification, increases competitiveness in the global market, and strengthens Pertamina's position as a responsible and future-oriented industrial leader.
What do you know about PT. Pertamina and the energy industry in general?	PT Pertamina (Persero) is an Indonesian state-owned company operating in the energy sector, particularly in the production and processing of oil and natural gas. As one of the important pillars in the Indonesian energy industry, Pertamina has a strategic role in meeting national energy needs, starting from exploration, production, processing, to distribution of fuel and petrochemical products. In the midst of the global energy transition, Pertamina is also actively exploring the development of renewable energy as part of efforts to diversify energy sources and reduce dependence on fossil fuels, demonstrating its commitment to sustainability and innovation in meeting future energy needs.
How do you assess success in your work?	Success in my work is assessed through several aspects, including the extent to which I can meet and exceed the targets or objectives set, the quality and positive impact of my contributions to the team or organization, and the satisfaction and value I provide to users or clients. Apart from that, the ability to continue learning, adapt to change, and innovate in facing challenges are also important indicators of my success. Feedback from colleagues, clients and superiors is also very valuable in evaluating my performance, helping me to continue to develop and increase my work effectiveness.
What will you do in your first 100 days of work here?	In the first 100 days of working here, I will focus on understanding the company culture, building good relationships with coworkers and management, and learning in depth about the company's products, services and business processes. I plan to actively participate in team meetings, ask for feedback, and seek out mentors to accelerate my learning curve. Additionally, I will identify areas where I can make a significant contribution and start working on projects or assignments that can

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	demonstrate my ability to add value to the team and the company. I am also committed to setting realistic short-term goals and achieving important milestones to demonstrate my progress and dedication to mutual success.
How do you contribute to a positive work environment?	I contribute to a positive work environment by establishing open and supportive communication, ensuring that each team member feels heard and valued. I actively provide constructive feedback, encourage collaboration, and celebrate shared achievements, both big and small. I believe that valuing diversity of ideas and perspectives can enrich problem solving and innovation. By maintaining a positive attitude, dealing with challenges calmly, and showing empathy toward coworkers, I strive to create an atmosphere conducive to professional growth and job satisfaction for everyone.
What is your experience working with diverse teams?	Working in a diverse team has given me invaluable experience, enriching my understanding of diverse cultures and perspectives. In an environment like this, I learned the importance of effective communication, empathy, and openness to new ideas. The diversity of team members brings a variety of creative and innovative solutions to the problems at hand, enabling us to achieve more holistic and inclusive solutions. This experience taught me the value of collaboration, adaptation, and the strength that comes from harnessing each individual's uniqueness, which significantly enhanced my ability to work effectively in a culturally and professionally diverse team.
How do you ensure the quality of your work?	To ensure the quality of my work, I adopt a detail-focused approach and continuity in learning. This involves implementing best practices relevant to my field, such as using industry standards in coding or design, conducting regular reviews of my work to identify and correct errors, and seeking input from colleagues or mentors to gain new perspectives. I am also committed to continuous professional development, by staying updated on the latest trends and new technologies in my field, thus ensuring that the solutions I offer are not only effective but also relevant to today's needs. Through a combination of rigor, constructive criticism, and continuous learning, I strive to consistently produce high-quality work.
Why is customer satisfaction important and how do you achieve it?	Customer satisfaction is a key ingredient in building long-term relationships and loyalty with customers, which in turn can improve brand reputation, generate positive reviews, and drive business growth through word-of-mouth referrals. To achieve this, businesses need to deeply understand customer needs and expectations, provide high-quality products or services that meet or exceed those expectations, and ensure a seamless customer experience from start to finish. Additionally, quick responses and solutions to customer complaints or problems are also critical in increasing customer satisfaction, as they show that the business cares and is committed to providing exceptional value to its customers.
How do you deal with failure?	Faced with failure, I take it as an opportunity to learn and grow. I start by analyzing the situation in depth to understand what didn't go as planned and identify the factors that contributed to the failure. By self-reflecting and receiving input from others, I developed an action plan to overcome obstacles and improve my skills. I believe that persistence and a willingness to continually learn from mistakes is the key to overcoming failure, and with a proactive approach and an open attitude to change, I can turn failure into a stepping stone to success.

In the table above are the results obtained from questions entered on the CharTech website. The results above provide a very good answer. The results of the answers above can make it easier for prospective employees before conducting a job interview.

Evaluation

In this evaluation process, the author carried out accuracy tests on the Neural Network Model. This is done so that the capabilities of the Neural Network algorithm can be seen.

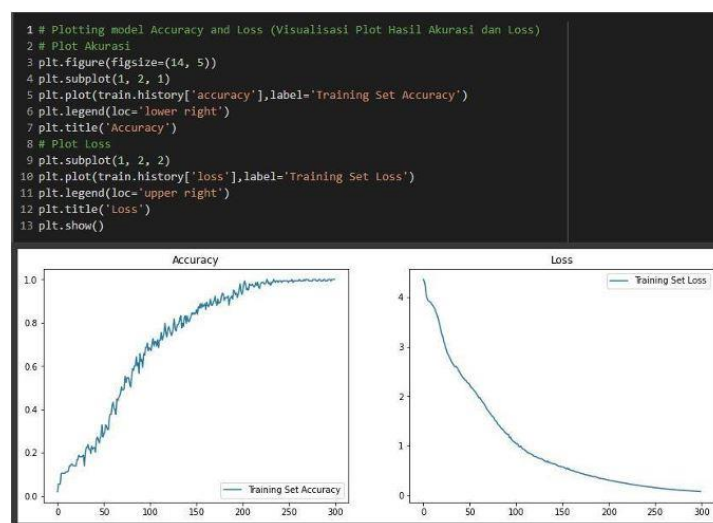


Fig 3. Result of Accuracy Neural Network Method

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The accuracy results obtained were 0.98, that is, multiplied by 100%, the result was 98%. So these results are close to perfect numbers, therefore the Neural Network model is a suitable model to use to analyze this interview question with the Chatbot design on the Cartech Website.

Deployment

The accuracy results that have been achieved show that the neural network model produces very good performance. This underscores the effectiveness of this technology in processing and understanding complex data, a key capability for advanced data analytics applications. With the ability to learn from data and improve the accuracy of its predictions automatically, neural network models have proven themselves to be robust and efficient solutions in a variety of use cases. In the context of using neural network models to analyze interview questions, this finding is very significant. This shows that the model can be relied on to process and respond to questions in a way that is closest to human understanding. This capability is very crucial in Chatbot development for CarTech websites, where natural and responsive interactions are prioritized to improve user experience.

Therefore, based on the accuracy results that have been obtained, it can be concluded that the neural network model is very feasible and suitable for use in Chatbot design on the CarTech website. High accuracy not only guarantees more precise and relevant responses to interview questions, but also paves the way for further innovation in the way we integrate artificial intelligence in our technology solutions. Implementation of this model brings us one step closer to the creation of truly interactive and intuitive systems.

DISCUSSIONS

In this research, we utilize the Neural Network model to analyze interview questions on chatbots on the Cartech Website. The accuracy results obtained are very good. Although sometimes in the research process there are still obstacles, such as the source code entered into the chatbot, sometimes there are still errors, so you have to repeat it and find the correct source code. Previous research has also used a lot of Neural Network models. So the Neural Network model is very suitable for analysis. This is because the results of the classification that has been carried out or the predictions that have been made have obtained very good results. The results of the interview questions can also really be used.

However, not all research can use the Neural Network model, the author also compares this with previous research, in that there are still some that obtain imperfect results and even the accuracy values are quite low. This means that to be able to use the Neural Network model, it must be adapted to the data and model that will be used. But from the good accuracy results, chatbots can really be used not only for this research, there are still other studies that can be carried out using chatbots. One example is making predictions or classification.

CONCLUSION

This research focuses on analyzing interview questions using a neural network model on a chatbot that is integrated into the CarTech website. The main objective of this research is to test the ability of the Neural Network model to process and respond to interview questions through Chatbot design on the CarTech website. With this approach, the research aims to evaluate the effectiveness of using neural network technology in understanding and answering questions automatically.

The results of the analysis carried out show that the Neural Network model is very effective for use in question classification systems. The accuracy achieved by this model is impressive, reaching 98%. These findings indicate that the use of Neural Network models in Chatbots on CarTech sites provides excellent performance in understanding and answering interview questions, making it a very suitable tool for this kind of application. These results can be used as a reference that Neural Network technology has great potential in developing accurate and efficient response automation systems.

REFERENCES

- Almasinejad, P., Golabpour, A., Ahouz, F., Reza, M., & Meybodi, M. (2022). *Predicting the status of COVID-19 active cases using a neural network time series*. 12(3), 3104–3117. <https://doi.org/10.11591/ijece.v12i3.pp3104-3117>
- Anggriandi, D., Utami, E., & Ariatmanto, D. (2023). Comparative Analysis of CNN and CNN-SVM Methods For Classification Types of Human Skin Disease. *Sinkron*, 8(4), 2168–2178. <https://doi.org/10.33395/sinkron.v8i4.12831>
- Anwar, B., Jalinus, N., & Abdullah, R. (2023). Weather Forecast In Medan City With Hopfield Artificial Neural Network Algorithm. *Sinkron*, 8(1), 398–404. <https://doi.org/10.33395/sinkron.v8i1.12048>
- Baker, S. A., Mohammed, H. H., Aldabagh, H. A., & Mohammed, H. H. (2020). *Improving face recognition by artificial neural network using principal component analysis*. 18(6). <https://doi.org/10.12928/TELKOMNIKA.v18i6.16335>
- Chai, S. S., Wong, W. K., Goh, K. L., Wang, H. H., & Wang, Y. C. (2019). *Radial Basis Function (RBF) Neural*

*name of corresponding author



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- Network : Effect of Hidden Neuron Number , Training Data Size , and Input Variables on Rainfall Intensity Forecasting.* 9(6), 1921–1926.
- Dharma, A. S., Sitorus, J. M. P., & Hatigoran, A. (2023). Comparison of Residual Network-50 and Convolutional Neural Network Conventional Architecture For Fruit Image Classification. *Sinkron*, 8(3), 1863–1874. <https://doi.org/10.33395/sinkron.v8i3.12721>
- Firdaus, A. A., Yunardi, R. T., Agustin, E. I., & Putri, T. E. (2020). *Short-term photovoltaics power forecasting using Jordan recurrent neural network in Surabaya.* 18(2), 1089–1094. <https://doi.org/10.12928/TELKOMNIKA.v18i2.14816>
- Khriyat, M. S., & Alqadi, Z. A. (2022). *Solving multiple linear regression problem using artificial neural network.* 12(1), 11591. <https://doi.org/10.11591/ijece.v12i1.pp770-775>
- Lestari, V., Mawengkang, H., & Situmorang, Z. (2023). Artificial Neural Network Backpropagation Method to Predict Tuberculosis Cases. *Sinkron*, 8(1), 35–47. <https://doi.org/10.33395/sinkron.v8i1.11998>
- Priatna, M. A., & Djamal, E. C. (2020). *Precipitation prediction using recurrent neural networks and long short-term memory.* 18(5), 2525–2532. <https://doi.org/10.12928/TELKOMNIKA.v18i5.14887>
- Rustam, Z., Yuda, R. P., Alatas, H., & Aroef, C. (2020). *Pulmonary rontgen classification to detect pneumonia disease using convolutional neural networks.* 18(3), 1522–1528. <https://doi.org/10.12928/TELKOMNIKA.v18i3.14839>
- Sovia, R., Syaifullah, A., Yenila, F., & Permana, R. (2023). *Penerapan Natural Language Processing Pada Sistem Chatbot Sebagai Helpdesk Obyek Wisata Menggunakan Metode Naïve Bayes.* 5(2), 210–218.
- Suherman, E., Hindarto, D., Makmur, A., & Santoso, H. (2023). Comparison of Convolutional Neural Network and Artificial Neural Network for Rice Detection. *Sinkron*, 8(1), 247–255. <https://doi.org/10.33395/sinkron.v8i1.11944>
- Taufik, Z. A. (2023). *Implementasi Chatbot untuk Layanan Frequently Asked Question Akademik dengan Penggunaan Dialogflow.* 9, 1–10.
- Wintoro, P. B., Hermawan, H., Muda, M. A., & Mulyani, Y. (2022). *Implementasi Long Short-Term Memory pada Chatbot Informasi Akademik Teknik Informatika Unila.* 8(200).