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ijrset@gmail.com

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Automatic Text Generation using Natural Language Processing

Yusra Moidutty, Sterin CJ, Rishkesh EM, Asst. Prof. Najiya Abdul Rahiman

Department of Computer Science & Electronics and Communication Engineering, Royal College of Engineering and Technology, Akkikav Thrissur, Kerala, India

ABSTRACT: Automatic text generation is the generation of natural language texts by computer. Text/character recognition and voice recognition allows computers to input the information, NLP and ML allows making sense of this information. Automatic letter writing, automatic report generation and helps in subsystems for time-sharing systems. NLP is an area of software engineering and Artificial Intelligence (AI) that manages human languages. The Voice of the user is been converted to text and then to Sentence. More Over in this project we are using Machine Learning (Reinforcement Learning) too. This paper discusses the recent approaches made in the field of these generative models for the generation of text and the algorithms which surrounds these mechanisms .We create a new approach that focuses mainly on increasing accuracy for this technique, reducing time in the systems of generating the use case of text written in natural language and finding solutions to some problems in current technologies because people need a smart and accurate system to meet their needs and save their time and increase the reliability of the reliance on software.

KEYWORDS: ARM Memory(i3-2357M), ARMv8-A, 60 GB or above borad, NLP , Machine Learning OperationalDatabase, Python, NLTK, PyTorch, linux

I. INTRODUCTION

Automatic text generation is the generation of natural language texts by computer. Text/character recognition and voice recognition allows computers to input the information, NLP and ML allows making sense of this information. NLP is an area of software engineering and Artificial Intelligence (AI) that manages human languages It is the computational technique where we represent and analyze language automatically. The Voice of the user is been converted to text and then to Sentence. More Over in this project we are using Machine Learning(Reinforcement Learning) too. We create a new approach that focuses mainly on increasing accuracy forthis technique, reducing time in the systems of generating the use case of text written in natural language and finding solutions to some problems in current technologies because people need a smart and accurate system to meet their needs and save their time and increase the reliability of the reliance on software .NLP technology applies finally ML (Reinforcement Learning) algorithms to convert. There are different pre-generated word available for different languages; on the other 500 hand each specific texts tend to have their own Character

As NLP tasks are hard to solve, but deep learning is required to get us the state-of-the-arton many challenging problems in this area ,With the help of word embeddings and popular models of Machine learning. They are more application in automatic text systems, automatic letter writing, automatic report generation and helps in subsystems for time-sharing systems. This paper discusses the recent approaches made inthe field of these generative models for the generation of text and the algorithms which surrounds these mechanisms.



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II. WORKING

Fig.1. shows the block diagram explaining the working principle. Initially, a high resolution smell sensor Arduino Based Alcohol Detector and also From there, we'll review the dataset we'll be using to train our custom face mask detector I'll then show you how to implement a Python script to train a face mask detector on our dataset using Keras and Tensor Flow.



Fig.1. System Architecture

The physical act of typing out personal notes is much slower than your brain’s actual processing speed. This is the point of human-computer interaction and communication in a device. It is also the way through which a user interacts with the following modules. It extracts and analyses voice features of human delivered to a machine or computer through the mic and the reusability that voice offers accurately-coded and documented word. It allows the designers to tune, evaluate and test all functionalities of the module. Despite its simplified interface, it has a number of powerful features for changing audio files like easy to use by inexperienced users.

(a) Commands can be defined using a text file and there is support for multiple languages. The system is designed to check for voice activity and recognize a wake-up keyword Because of their reduced instruction set, they require fewer transistors, which enables a smaller die size for the integrated circuitry. Hence by these factors ARM sensors is been used for detecting or sensing the voice signals directly from the users ,Processor: ARM Memory(i3-2357M).



Fig.2. ARM Processor (i3-2357M).

(b) User Interface – The physical act of typing out personal notes is much slower than your brain’s actual processing speed. The point of human-computer interaction and communication in a device. It is also the way through which a user interacts with the following modules. Here the user is just been speaking the preferable word one by one. The other procedure are been done using the further programming .Hence the voice signal is detected by an ARM

processor. NLP programming is been converted these words to text. Later on the text is been converted to sentence by Machine learning.

c) Voice Processing module – A hardware module that is an efficient and cost effective add-on solution for acoustic echo cancellation, noise reduction and other signal processing tasks. It integrates the software technologies performing digital signal processing of the input signals. The VPM processing blocks on the transmit and receive the paths as well as control and logging functionality. analog-to-digital and digital-to-analog converters are omitted for simplicity. It extracts and analyses voice features of human delivered to a machine or computer through the mic and the reusability that voice offers accurately-coded and documented word. It allows the designers to tune, evaluate and test all functionalities of the module.

d) Voice activity detector Computers, real-time implementation of voice activity detector on ARM embedded processor of Computers. Automatic switching between noise sound signals. it was used to serve as an automatic switch to enable noise classification in the absence of speech in a noise-adaptive speech enhancement pipeline.

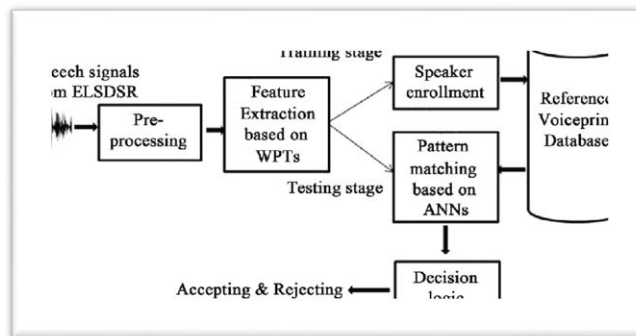


Fig.3. : User Interface module

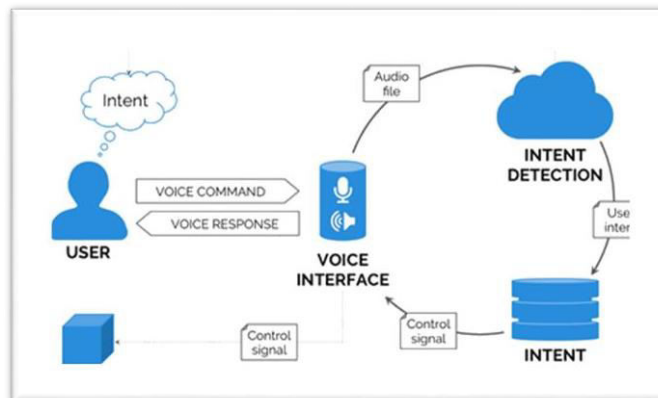


Fig 4. Data Flow Diagram of working principle

III. MODULAR DESIGN

The modular design of voice to text recognition system as shown in Fig. 1., shows the various elements used in the voice processing system.

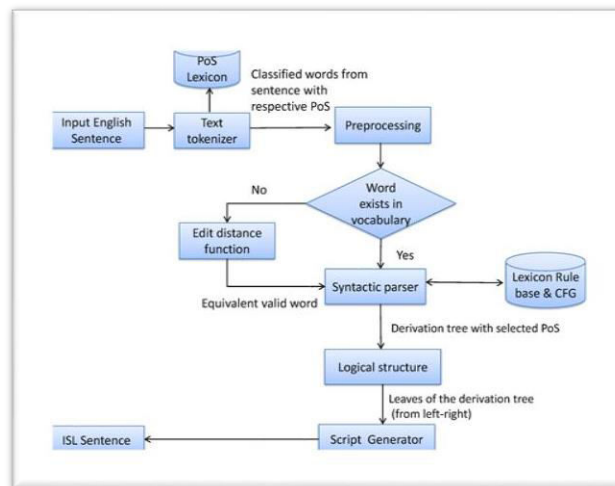


Fig.1. Modular Design

The user is just been speaking the preferable word one by one. The other procedure are been done using the further programming. Hence the voice signal is detected by an ARM processor. NLP programming is been converted these words to text. Later on the text is been converted to sentence by Machine learning[2].

The Voice of the user is been converted to text and then to Sentence. More Over in this project we are using Machine Learning (Reinforcement Learning) .

- Detected words : 60 Text
- Undetected words : 66 Text

Our goal is that the application should be user friendly. It should be portable and feasible .It should be faster and efficient. System design and development phase should be convenient[7].

IV. FEATURES

The system will suggest the requirements stored in the database in advance and the data is entered in natural language processing system and algorithm is done by Machine Learning. his project is mainly dealing with this types of issues , so they are use up friendly also easy to access in all requirements.

Here NLP applications is used to employ reinforcement learning algorithm methods to explore the research on this text generation. The goal here is to show the o/p by using NLP and reinforcement machine learning algorithms to generate sentences from the required words [6].

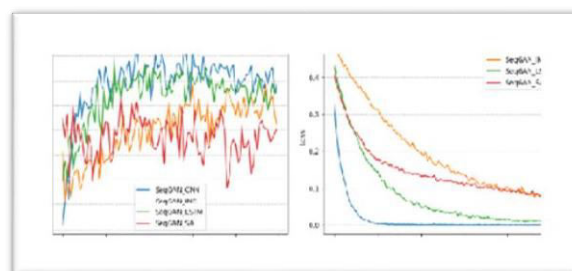


Fig.6. Graphical Representations



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We create a new approach that focuses mainly on increasing accuracy for this technique, reducing time in the systems of generating the use case of text written in natural language and finding solutions to some problems in current technologies because people need a smart and accurate system to meet their needs and save their time and increase the reliability of the reliance on software. NLP technology applies finally ML (Reinforcement Learning) algorithms to convert. There are different pre-generated word available for different languages; on the other hand each specific texts tend to have their own Character. To use the service pull the Voice Recognition console onto the screen, Word, and move the cursor to the part of the document that User currently editing. Then click the mic button and start talking. Click the mic again to turn off voice dictation then been converted into text and sentences[4].

V. ADVANTAGES AND DIS-ADVANTAGES

Automatic Text Generation is normally Friendly interface. They used has a No login for students, Especially their Functionality is much more easier to use for the handicaps who suffer from voice breaking issues, throat issues etc... As well as they are easy to handle like porting the software on to any portable devices. Once updated details can be retrieved even if it is offline. They are easy to operate and more fast and convenient for the users as well as no helping from the nearest person who are also aware about this project. Android application through smart phones can be used to a great extent. Facilitates communication between User and System. Here we can give information from the vocal sound of the user and directly been converted to words and Sentences. Users can issue notifications from the system through coding. And also they can set the word order, also they can issue notifications of incorrect Words.

Highly complex data might not always be available in easily forms to recognizable sentence. NLP software applications do not result in creating set of vocabulary. The code ignores the location information of the word. The location information is a very important information in the text. The location of the word is not the same as the semantics. Most practical text systems are based on some form of extractive sentence. include topic identification, interpretation, summary generation, and evaluation of the generated a text.

VI. OVERCOME LIMIT

The code ignores the location information of the word. The location information is a very important information in the text. The location of the word is not the same as the semantics Highly complex to program and so only warrants this kind of interface where other types of interface are unsuitable. We have to run and test our data in all the algorithms. After that only we can decide what algorithm we want. Reliability remains an issue - the interface can only respond to commands that have been programmed. The system will take time. This may sometimes cause the consumption of more CPU power. Even with GPUs alongside, it sometimes becomes hectic. Also, the data might use more than the allotted space. Highly complex data might not always be available in easily forms to recognizable sentence. NLP software applications do not result in creating set of vocabulary.

The data is huge, so sometimes removing errors becomes nearly impossible. These errors can cause a headache to users. Since the data is huge, the errors take a lot of time to resolve. The system is built for a single and specific task only; it is unable to adapt to new domains and problems because of limited functions. The growth of NLP is accelerated even more due to the constant advances in processing power. Even though NLP has grown significantly since its humble beginnings, industry experts say that its implementation still remains one of the biggest big data challenges of 2021. Before putting NLP into use, you'll need data. Possibility of High Error. In ML, we can choose the algorithms based on accurate results.. Algorithm Selection. The selection of an algorithm in Machine Learning is still a manual job. Data Acquisition. In ML, we constantly work on data. Requires more Time and Space.[5].

VII. APPLICATION

Our prototype can be used as portable than website. Once updated details can be retrieved even if it is offline. are taking to convert the voice to text used the smart devices . However, most assistants are fairly limited to very specific tasks. Large-scale texting could become a powerful question answering technique. By collecting the most relevant voice signals for a particular conversion, the voice could assemble a cohesive letters in the form of a multi-text as then to sentence. Media monitoring, Newsletters, Search marketing and Internal text workflow, Financial research, Legal contract analysis. are used. It helps students learn to determine essential ideas and consolidate important details that support them. Many apps are to used this types of generation project to help many handicaps , they are one who will have more useful from converting their voice without anything .

VIII. CONCLUSION

Automatic Text Generation using NLP applications is used to employ reinforcement learning algorithm methods to explore the research on this text generation .Here various applications of AI is used for more procedures because NLP has its own limitations for coding large data(Sentences),so ML is also used to set the sentence conversion which is off larger bytes. Using ARM Processor the voice is been sensed {ARM = 64-bit and RISC}.ARM processors are designed to perform a smaller number of types of computer instructions so that they can operate at a higher speed, performing more millions of words per second .It will be more useful for the handicaps without any risk/pain in typing issues. It allows the user to perform high level discourse planning and thus reduces some of the burden on the text planner. The goal here is to show the o/p by using NLP and reinforcement machine learning algorithms to generate sentences from the required words. The system will suggest the requirements stored in the database in advance and the data is entered in natural language processing system and algorithm is done by Machine Learning.

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