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Automated Message Monitoring System Using Machine Learning

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ABSTRACT: Automated Message Monitoring System using Machine Learning implements our coded, machine learning technique, in finding a negative word from the messages it receives by a user. When a message is sent from a user to the enduser, then the message will be compared withour pre trained data, if the message is harsh enough then it will be decided whether to mask it or not. Based on our pre-trained data the negative words in a message are restricted from being sent to the end user and then it is masked. The system will proceed to send a masked message to the end user in case of any negative word/component in the message otherwise, the final user will receive the original message.

KEYWORDS: Machine Learning, Key word2: TensorFlow, Key word3: NLTK, Key word4: Keras.

I. INTRODUCTION

The Internet and information communication technology (ICT) are becoming a normal part of children's and teenagers' daily life.Many scholars refer to the generation born after 1980 as the 'always-on generation,' since they are growing up in a society where they have quick access to a vast amount of human knowledge almost everywhere. They have access to a variety of social media platforms via which they can interact, produce, and collaborate with one another. They can play, watch, and/or create games, as well as generate films and images and shop for things online. The disadvantage of these expanding options is that they increase the likelihood of undesirable experiences like online bullying. Online bullying, often known as cyberbullying, is defined as "bullying that takes place over the internet."

Cyberbullying is defined as the intentional insulting, threatening, defaming, or harassing of others over an extended period of time using current means of communication. Cyberbullying is bullying that takes place on digital devices such as cell phones, laptops, and tablets. Cyberbullying can occur offline in places like social media, forums, and gaming where people can watch, participate in, or share content, or online in places like social media, forums, and gaming where people can observe, engage in, and share content. Cyberbullying is defined as sending, uploading, or disseminating offensive, harmful, false, or ugly content about another person. It can entail humiliation or embarrassment as a result of sharing intimate or private facts about another person. When it comes to cyberbullying, it's easy to cross the line into unlawful or criminal behaviour.Cyberbullying can occur over the phone or over the Internet (through e-mail, instant messenger, social media, and videos on various portals) (via WhatsApp, for example).

This paper analysis helps in restricting cyber bullying. There is no such method till today that restrict cyber bullying on any social media platform. We are intended to prevent cyber bullying with our project so that people's especially teenager's mental health would be improved.

MOTIVATION:

Adopting and aggressively enforcing an anti-bullying culture is the only way to overcome the bullying culture.This is where our project Automated Message Monitoring System with Machine Learning comes in handy.

A culture of bullying is defined as the acceptance, facilitation, or continuation of the harmful practice. Bullying culture is also fueled by how people perceive bullying and how they react to it. Some people, for example, still believe that bullying is unimportant or that it "just happens." Others either engage in bullying or see it but remain silent about it due to fear or other factors. Each of the previous perceptions adds to the bullying culture, with

indifference being the most powerful enabler. For a variety of reasons, the creation of an anti-bullying culture is significant.

II. LITERATURE SURVEY

1.CYBER BULLYING

It's not always easy to figure out what exactly qualifies as cyberbullying. The concept of cyberbullying is largely defined by the viewpoints of those who define it. "When we describe a behaviour, it is vital to recognise it as an action that occurs in a certain context, at a specific time,"Multiple influences are at work on the people who carry out the deed," writes Shariff (2008). (p. 29).This is particularly true in the case of cyberbullying. Members must understand and address concerns associated to cyberbullying without alienating those we are attempting to reach – the kids – in order for any cyberbullying policy to be adopted and effectively implemented by school systems.

Belsey and Willard's definition of cyberbullying has been utilised to influence the development of cyber research and policy; their definitions, ideas, and studies have served as the foundation for contemporary research (Hinduja & Patchin, 2008, Shariff 2008, & Trolley, Hanel, & Shields, 2006). However, while their definitions are thorough, one element is absent that is critical for this review: the ages of those engaged. This literature study will focus on school-aged children's cyberbullying and the need for school systems to respond. As a result, the following definition from Aftab (2006), a cybercrime, Internet privacy, and cyber-abuse lawyer and author of www.stopcyberbullying.org, will be used to help construct this literature review:

Cyberbullying occurs when a child, teenager, or teen is tortured, intimidated, harassed, humiliated, embarrassed, or otherwise targeted by another child, adolescent, or teen using the Internet, interactive and digital technologies, or mobile phones. On both sides, there must be a minor, or at the absolute least, it must have started with a minor against another minor. When adults become engaged, cyber-harassment or cyberstalking becomes evident and simple. Cyberbullying is never used to describe adult cyberstalking or cyberharassment.

2. CHATBOT

Chatbots are digital systems that can only be communicated with using natural language, either through text or voice interfaces. They're designed to automate discussions by emulating a human conversation partner, and they can be connected into software like online platforms, digital assistants, or messaging services.

Chatbots are employed in customer service (Xu et al., 2017), hospital patient counselling (Vaidyam et al., 2019), and smart speaker information services outside of education (Ram et al., 2018).The purpose classification component of chatbots, also known as the Natural Language Understanding (NLU) component, is responsible for making sense of human input data.Looking at recent developments in chatbot software development, it appears that the technology's ultimate goal is to pass the Turing Test (Saygin et al., 2000), making chatbots excellent educational tools. "Are we there yet?" we wonder aloud as a result. - Will every learner soon have access to an autonomous chatbot?"

After examining relevant studies, several research concerns regarding the use of chatbots in education remain. As a result, we chose five goals to study further in our literature review. First and foremost, we were interested in the goals for deploying chatbots in education (Goal 1), as the significance of chatbots for educational applications appears to be unclear. Second, we want to look at the pedagogical roles of chatbots in the existing literature (Goal 2) to see how they can replace teachers. (Winkler and Soellner, 2018) and (Pérez-Marn, 2021) identified research gaps in the use of chatbots to promote meta-cognitive skills like self-regulation.

III. EXISTING SYSTEM

Earlier there was no technology, so the basic method of communication between two people at farther distances was through letters and through pigeons, horses in the historical ages. Now that technology has evolved into a wider range, there are a lot of ways to connect with people from different countries.Email, SMS, and social media platforms such as WhatsApp, Facebook, and Instagram are just a few examples. Rates of online hate speech and cyberbullying have also increased.If any hate speech is sent in the existing system, it can lead to some strict police action against the sender.This is all done after the damage has already happened.

IV. PROPOSED MODEL

The proposed system finds the negative comment or the harsh word in the message that is being sent. If the message is indeed harsh, the system masks the original message when being sent. The masked message does not contain any sensitive or insulting words in it when sent to the end user. This helps in reducing online hate speech which means a

decline rate in cyber bullying is seen. Ifthe message does not contain any harsh words or any hate speech then the original message is allowed to send to the end user.
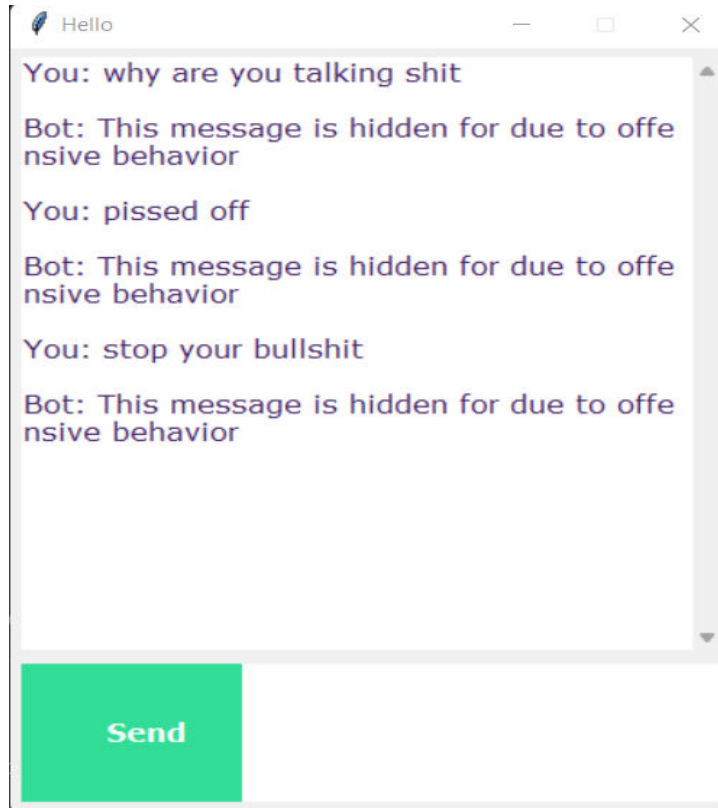
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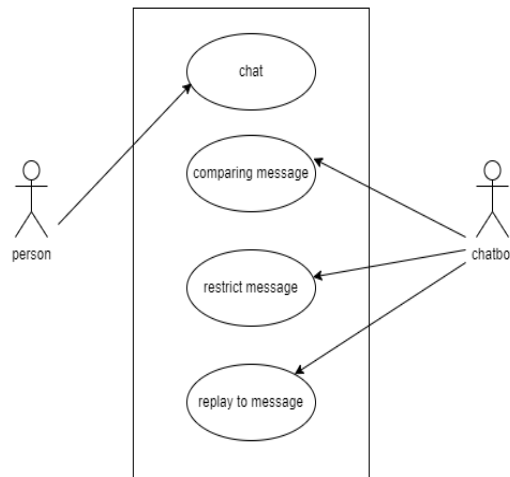
Use case Diagram
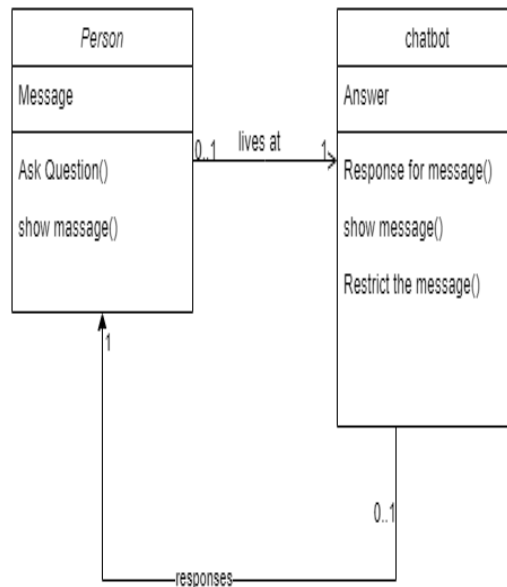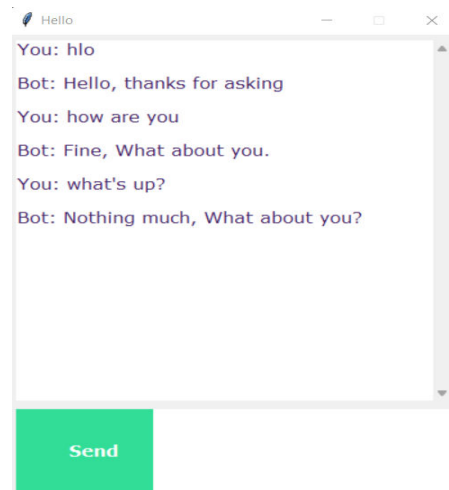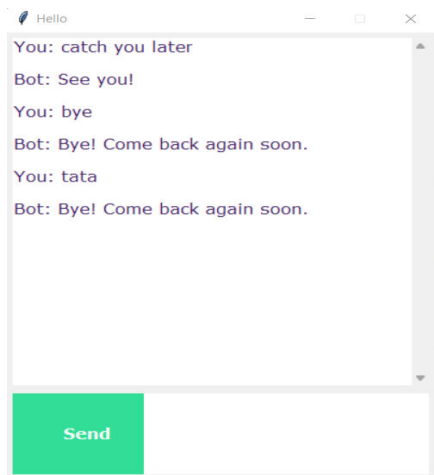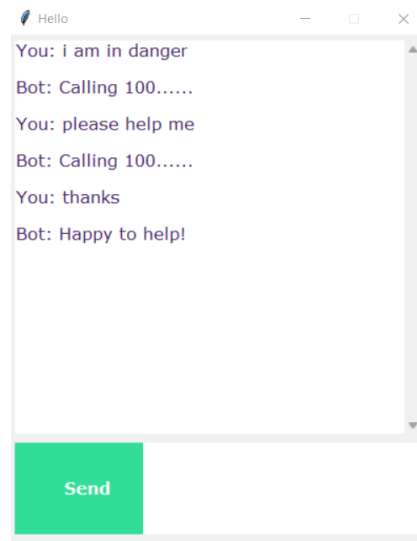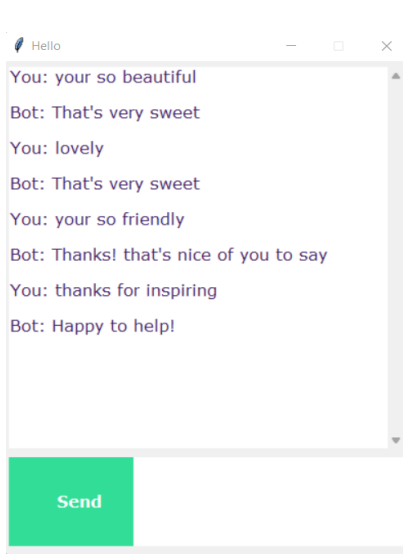

Class Diagram

V. RESULTS AND DISCUSSION

If the message is indeed harsh, the message will be masked as shown in the above output, otherwise a relevant reply will give to the message that has been sent.

The chatbot of Automated Message Monitoring System using ML, responds to all the greeting or welcoming messages such as hi, hello, etc.In the same way, chatbot responds with relevant messages to all messages regarding well-being, messages about good-bye, leaving, all relevant replies will be displayed for all casual talks or conversations among people.

The state of being "safe," or being shielded from harm or other risk, is known as safety. Controlling recognised dangers to attain an acceptable level of risk is sometimes referred to as safety. The bot responds with "Calling 100" in the event of an emergency, ensuring people's safety.

The bot responds with all the relevant replies for all the compliments an individual may get.

VI. CONCLUSION

Bullying has progressed in lockstep with technological advancements. Bullying has now spread to the internet, while it was once isolated to the schoolyard or neighbourhood. Bullying that occurs through the use of technology is referred to as "cyberbullying."

Cyberbullying can occur anyplace that people engage online. Some young people, for example, bully other young people, post humiliating images, reveal private information, or send threatening messages via social media, video games, texting, or anonymous apps. Students can use their access to a large online audience to encourage their peers to assist them spread false information, rumours, and gossip against someone.

Automated Message Monitoring System with Machine Learning has a purpose and can be utilised for a significant issue.

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