INDIAN INSTITUTE OF INFORMATION TECHNOLOGY, DHARWAD

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MINI PROJECT WORK REPORT ON

"AI COVID-19 Recommendation System (ChatBot)"

In partial fulfilment of the requirements for the VI Semester of Bachelor of Technology

In Computer Science Engineering.

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ABSTRACT

We are all together in a fight against the COVID-19 pandemic. Chatbots, if effectively designed and deployed, could help us by sharing up-to-date information quickly, encouraging desired health impacting behaviours, and lessening the psychological damage caused by fear and isolation. Despite this potential, the risk of amplifying misinformation and the lack of prior effectiveness research is cause for concern. Immediate collaborations between healthcare workers, companies, academics, and governments are merited and may aid future pandemic preparedness efforts.

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Chapter one

Introduction

1.1. Problem Statement

With the spread of COVID-19 across the world, there is a sense of panic and uncertainty amongst the public. People are not sure what measures to take to safeguard themselves and their family and have many questions.

1.2. State of the Artwork

During the novel coronavirus (COVID-19) pandemic, institutions like the Centers for Disease Control and Prevention (CDC) and the World Health Organization (WHO) have begun utilizing chatbots to share information, suggest behavior, and offer emotional support. Chatbots are software programs that talk with people through voice or text in their natural language. Some well-known examples include “Alexa” from Amazon, “Siri” from Apple, and “Cortana” from Microsoft. They often come pre-installed on smartphones or home-based smart speakers. In recent years, chatbot use for health-related purposes has increased considerably, from supporting clinicians with clinical interviews and diagnosis to aiding consumers in self - managing chronic conditions. Chatbots have varied widely in their responses to questions about physical health, suicide, intimate partner violence, substance abuse, and other sensitive conversations. The COVID-19 pandemic puts in stark relief the potential for chatbots to help save lives.

Chapter two

Software Requirements Specifications(SRS)

2.1. Platform

- PyCharm
- Spyder 3.0

2.2. Language Used

- Python

2.3. Graphical User Interface (GUI)

- Tkinter

2.4. Libraries Used

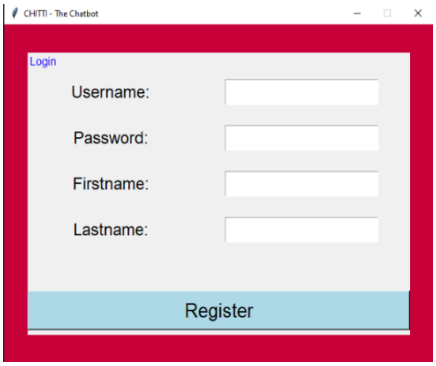
- Pytorch
- Pandas
- NumPy
- NLTK
- Matplotlib
- BeautifulSoup
- Pillow
- Requests

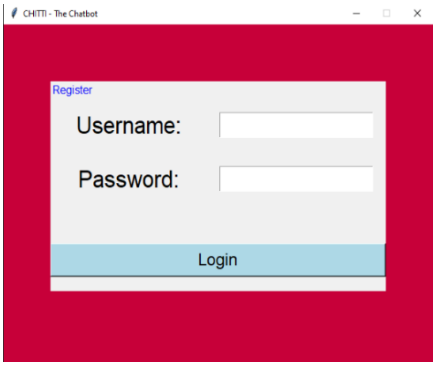
2.5. Others

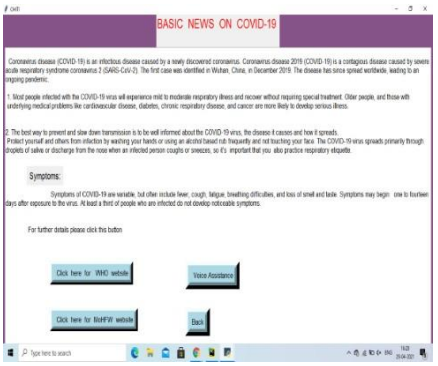
- Intents (JSON File)
- Natural Language Processing(NLP)
- APIs
- Web Scraping
- Website: MoHFW, CoWIN, Worldometer

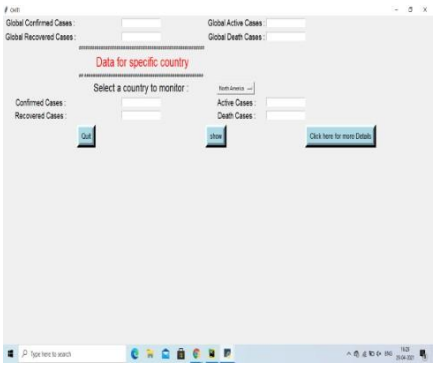
Chapter Three

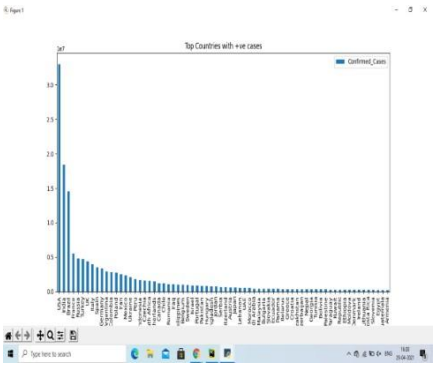
Results

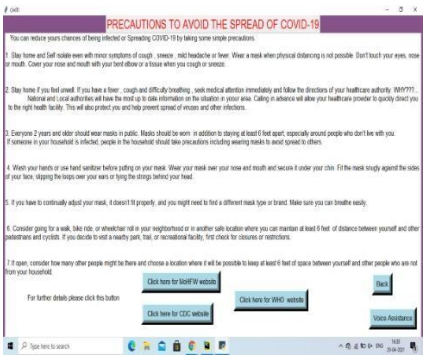


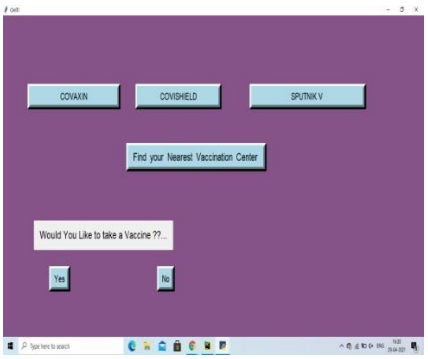


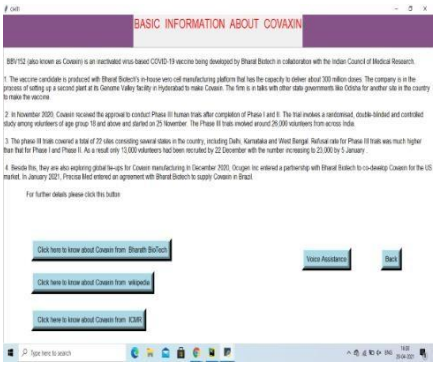











BASIC INFORMATION ABOUT COVAXIN
BBV152 (also known as Covaxin) is an inactivated virus-based COVID-19 vaccine being developed by Bharat Biotech in collaboration with the Indian Council of Medical Research.
1. The vaccine candidate is produced with Bharat Biotech's in-house vero cell manufacturing platform that has the capacity to deliver about 300 million doses. The company is in the process of setting up a second plant at its Genome Valley facility in Hyderabad to make Covaxin. The firm is in talks with other state governments like Odisha for another site in this country to make the vaccine.
2. In November 2020, Covaxin received the approval to conduct Phase III human trials after completion of Phase I and II. The trial involves a randomised, double-blinded and controlled study among volunteers of age group 18 and above and started on 25 November. The Phase III trials involved around 26,000 volunteers from across India.
3. The phase III trials covered a total of 22 sites consisting several states in the country, including Delhi, Karnataka and West Bengal. Refusal rate for Phase III trials was much higher than that for Phase I and Phase II. As a result only 13,000 volunteers had been recruited by 22 December with the number increasing to 23,000 by 5 January.
4. Beside this, they are also exploring global tie-ups for Covaxin manufacturing. In December 2020, Ocugen Inc entered a partnership with Bharat Biotech to co-develop Covaxin for the US market. In January 2021, Precisa Med entered an agreement with Bharat Biotech to supply Covaxin in Brazil.
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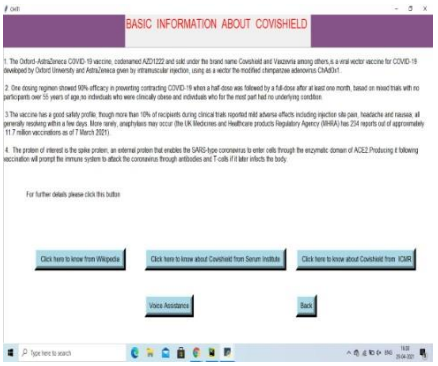
BASIC INFORMATION ABOUT COVISHIELD
1. The Oxford-AstraZeneca COVID-19 vaccine, codenamed AZD1222 and sold under the brand name Covishield and Vaxzevria among others, is a viral vector vaccine for COVID-19 developed by Oxford University and AstraZeneca given by intramuscular injection, using as a vector the modified chimpanzee adenovirus ChAdOx1.
2. One dosing regimen showed 90% efficacy in preventing contracting COVID-19 when a half-dose was followed by a full-dose after at least one month, based on mixed trials with no participants over 55 years of age,no individuals who were clinically obese and individuals who for the most part had no underlying condition.
3.The vaccine has a good safety profile; though more than 10% of recipients during clinical trials reported mild adverse effects including injection site pain, headache and nausea; all generally resolving within a few days. More rarely, anaphylaxis may occur (the UK Medicines and Healthcare products Regulatory Agency (MHRA) has 234 reports out of approximately 11.7 million vaccinations as of 7 March 2021).
4. The protein of interest is the spike protein; an external protein that enables the SARS-type coronavirus to enter cells through the enzymatic domain of ACE2.Producing it following vaccination will prompt the immune system to attack the coronavirus through antibodies and T-cells if it later infects the body.
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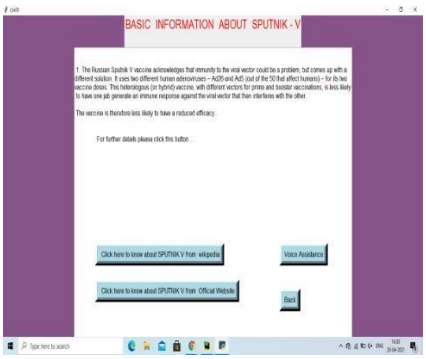
BASIC INFORMATION ABOUT SPUTNIK - V
1. The Russian Sputnik V vaccine acknowledges that immunity to the viral vector could be a problem, but comes up with a different solution. It uses two different human adenoviruses – Ad26 and Ad5 (out of the 50 that affect humans) – for its two vaccine doses. This heterologous (or hybrid) vaccine, with different vectors for prime and booster vaccinations, is less likely to have one jab generate an immune response against the viral vector that then interferes with the other.
The vaccine is therefore less likely to have a reduced efficacy.
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Chapter four

Conclusion and Future Scope

The WHO Director-General recently called for innovative pandemic responses. To this aim, chatbots
are already being deployed in the fight against COVID-19. If designed effectively, chatbots may help prevent misinformation, aid in symptom detection, engender infection-limiting behaviors, and lessen the mental health burden of pandemic response. In a pandemic, no group of people remains unaffected for long. Together patients, healthcare workers, academics, technology companies, NGOs, and governments can ensure chatbot say the right thing.

In the future, the chatbots can be used to avoid any kind of misinformation being spread.

Chapter Five

References

- WHO Website- www.who.int
- MoHFW Website- www.mohfw.gov.in