

Healbot: NLP-based Health Care Assistant for Global Pandemics

Shan Anushka*

Faculty of Graduate Studies and Research

Sri Lanka Institute of Information Technology, Sri Lanka

anushka.shan7@gmail.com

Samantha Thelijjagoda

SLIIT Business School

Sri Lanka Institute of Information Technology, Sri Lanka

samantha.t@slit.lk

Abstract - Since it was detected, coronavirus (also known as COVID-19) has become a worldwide epidemic. The surge in patients has made it challenging for hospitals and medical professionals to keep up due to the increasing number of recorded incidents. When the pandemic starts, it is getting really hard to visit a medical specialist, even in more remote areas. According to the Johns Hopkins university's Covid dashboard, approximately 220 million Covid cases were reported worldwide [2]. According to government hospital reports, 666,086 cases were found in Sri Lanka [3]. It's a massive amount to handle for the health sector and the country. Consequently, there are many deaths reported every day as a result of the challenges in inpatient care. Because all patients are treated in their homes, this must be done efficiently. Only the most urgent cases are being treated in hospitals. Hospitals and quarantine centers are overcrowded. People in remote areas are also trying to treat the disease without knowing anything about it because they have limited access to information. This is because it needs a Chatbot to help with diagnosing Covid symptoms at home, and to assist patients in finding the right treatment options. An artificial intelligence (AI) Chatbot has been developed with the goal of diagnosing COVID-19 exposure and advising rapid remedies. As part of this analysis, relevant past research was reviewed to establish the best reliable approach for predicting COVID-19 in people. There was an integration of Logistic Regression, Decision Trees, and Random Forests to develop the model. The model was trained with the clinical data taken from the COVID-19 patients and machine learning models are evaluated to see how accurate they are. It was determined how accurate the algorithms were. The patients who were infected with COVID-19 were examined by using implemented prototype to predict the severity level and the trained model makes use of RASA Framework, FastAPI, and MongoDB for the purpose of making predictions. The accuracy of the trained model and random sample tests seems similar. So, the prototype's efficacy is perfectly matched. In rural areas, it can help patients by providing them with proper advice on how to treat, what preventive measures are, and what nearby health services are. It can also help patients by reducing the psychological damage that may be caused by their isolation from other people.

Keywords - chatbot, COVID-19, health assistant, RASA Open-Source, NLP