Assistant Zone - Homeschooling Assistance System based on Natural Language Processing

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Abstract

As a developing country, most people give their highest priority to education. When focus on building an e- learning platform to improve the knowledge of students and enhance the teacher-student interactivity during the pandemic season can be mentioned as the main hardship which highly impacted the field of education. Not only due to pandemic situation but addressing the concerns when it comes to teacher also and important to consider. The student evaluation and psychological levels of students who are undergoing different difficulties, are mainly considered when develop this Home Schooling Assistance System" (Assistant Zone) as a solution. The Assistant Zone has been initiated with three unique features which are valuable for both students and teachers. This system analyzes the strengths, weaknesses and evaluates the student performance, suggests study materials to improve themselves, provides solutions to the problems faced by the students, teachers, and parents and measures the performance of teachers based on their students, and recommends learning materials for the low-performing teachers. The Assistant Zone fulfills the targeted problems and introduces the above- mentioned three unique features with the use of Natural Language Processing (NLP) such as the BERT algorithm and Machine Learning models such as the Recurrent Neural Network, Forward Neural Network, and Gaussian Model.

Keywords

Natural Language Processing, Bert, Machine Learning, Vader Sentiment Analysis, Rnn