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Online Subjective Answer Verifying Using Artificial Intelligence

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Abstract: ***Every year educational institutes conduct various examinations, which include institutional and non-institutional competitive exams. Nowadays online tests and examinations are becoming popular to reduce the burden of the examina- tion evaluation process.Hence, an Artificial Intelligence-based answer verifier is proposed to do the job of examiner/evaluator automatically. As a result of this artificial intelligence-based an- swer verifier, the evaluator's time and energy can be conserved, with improved work efficiency.***

I. INTRODUCTION

The Online Examination is beneficial to users as in the present day, and the online exams are based on objective questions and exams are getting digitized all over the world. In this scenario, exam questions can even be based on subjective answers. Meaning that the traditional pen-paper based tests are replaced by computer-based tests that have proven to be both: (i)more consistent in allocating marks and (ii)faster than teachers correcting papers. The traditional exam usually consisted of subjective answers, which were not the best way of grading the student's perception of the subject. Because sometimes, examiners get bored by checking many answer sheets, and there may be an increase in the false evaluation. Evaluation of such questions using computers is a tricky task, mainly because natural language is ambiguous. Several preprocessing steps must be performed, such as cleaning the data and tokenization before working on it. Subjective exams are considered more complex and scary by both students and teachers due to their one fundamental feature, context. A subjective answer demands the checker check every word of the answer for scoring actively, and the checker's mental health, fatigue, and objectivity play a massive role in the overall result.

II. LITERATURE SURVEY

A. Online Subjective answer verifying system Using Artificial Intelligence(2021)

Authors: Jagadamba G,Chaya Shree G. Organizations/educational institutes always depend on the grading system through examinations. However, most of the examinations are objective. These systems or any other such system are more advantageous in terms of saving resources but failed to include subjective questions [1, 9, 10]. This paper attempted to evaluate the descriptive answer. The evaluation is done through graphical comparison with a standard answer

B. Subjective Answers Evaluation Using Machine Learning and Natural Language Processing(2021)

Authors: Hamza Arshad,Abdul Rehman Javed.

Various methods are used for subjective answer evaluation in the past and looked at their shortcomings. In this paper, we propose a new approach to solve this problem which consists of training a machine learning classification model with the help of results obtained from our result prediction module and then using our trained model to reinforce results from the prediction model, which can lead to a fully trained machine learning model

1) Tool for Evaluating Subjective Answers using AI(TESA)(2021)

Authors:Shreya Singh,Omkar Manchekar,Ambar Patwardhan All the studies which have been reviewed show that there are various different techniques for the evaluation of subjective answer sheets. The advantage of the system lies in the fact that it uses a weighted average of the closest to accurate techniques to provide the most optimized result.TESA is a systematic and reliable system which eases the role of evaluators and provides faster and more efficient outputs.

2) ASSESS – Automated subjective answer evaluation using Semantic Learning

Authors:Nidhi Dedhia,Kunal Bohra,Prem Chandak

This automated approach is beneficial when students need to be assessed online for self improvement. This system gives special emphasis to the specially-abled by providing various speech-based usability features, where the gaps are filled by providing audio facilities like listening to the questions and answering them verbally.

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The advantage of this system is that it is near completion, has improved performance and caters to a very large audience.

3) Automated Answer-Checker

Authors: Vasu Bansal,M.L. Sharma, Krishna Chandra Tripathi

The proposed system could be of great utility to the educators whenever they need to take a quick test for revision purposes, as it saves time and the trouble of evaluating the bundle of papers.This System would be beneficial for the universities, schools and colleges for academic purpose by providing ease to faculties and the examination evaluation cell.

III. PROPOSED SYSTEM

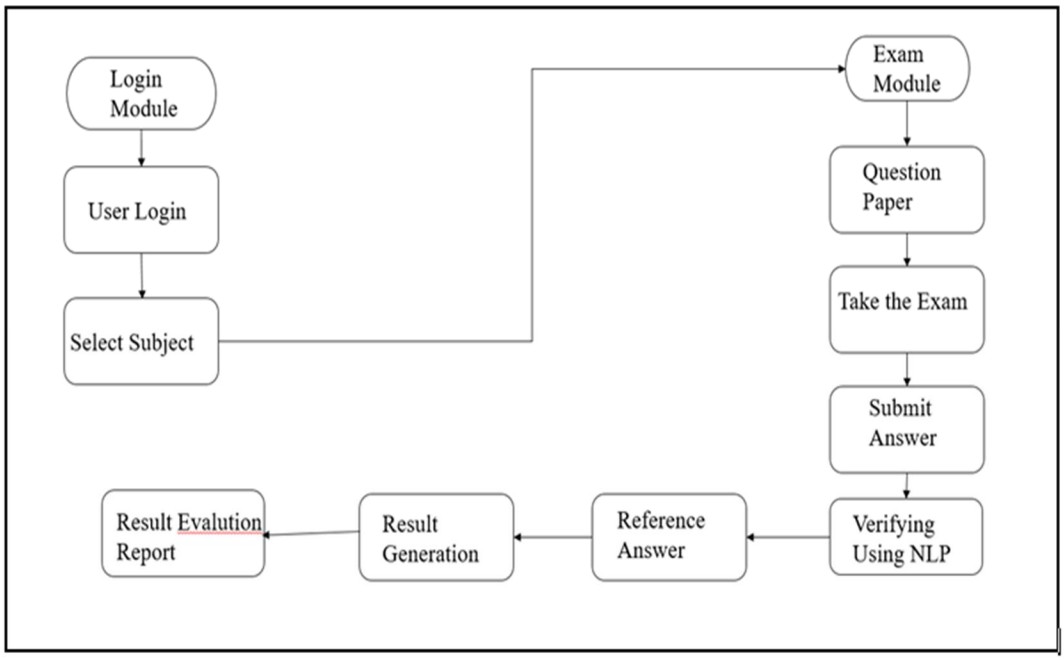


Fig. 1. System Architecture

A. Login Module

User login and select subject.

B. Exam Module

1) Take the exam and submit a paper.
2) Verifying answers using Natural Language process- ing(NLP).
3) Result Generation.
4) Display Evaluation Report.

IV. ALGORITHM

1) Natural Language Processing: The study of NLP aims to make it possible for computers to comprehend, interpret, and produce human language. There are several different tasks involved, including speech recognition, sentiment analysis, machine translation, question-answering, and more.NLP frequently employs machine learning algorithms. To carry out tasks like text classification, named entity identification, sentiment analysis, and machine translation, they discover patterns and correlations from data. For tasks like senti- ment analysis, text categorization, and named entity identification, supervised learn- ing can be employed.

2) Stop Word Removal: The algorithm is implemented as below given steps.

Step 1: The target document text is tokenized and individual words are stored in an array.

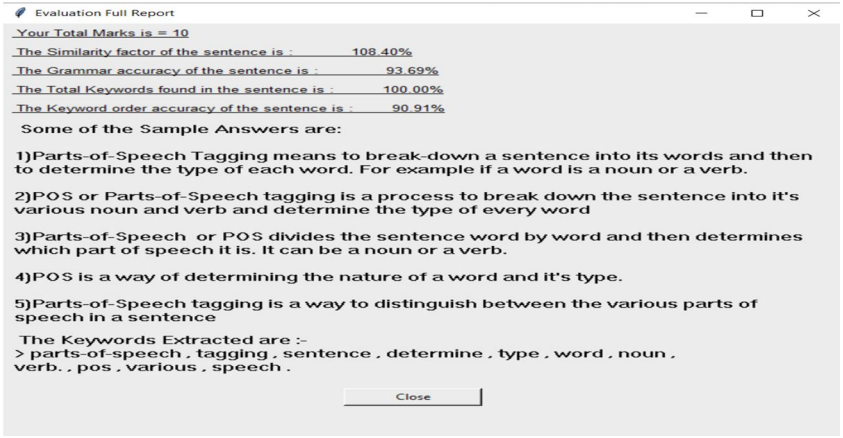
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Step 2: A single stop word is read from the stopword list.
Step 3: The stop word is compared to target text in the form of an array using sequential search technique.
Step 4: If it matches , the word in the array is removed , and the comparison is continued till length of the array.
Step 5: After removal of the stopword completely, another stopword is read from the stop- word list and again the algorithm follows step 2. The algorithm runs continuously until all the stopwords are compared. Step 6: Resultant text devoid of stopwords is displayed, also required statistics like stopword removed, no. of stopwords removed from target text, total count of words in target text, count of words in resultant text, individual stop word count found in target text is displayed.

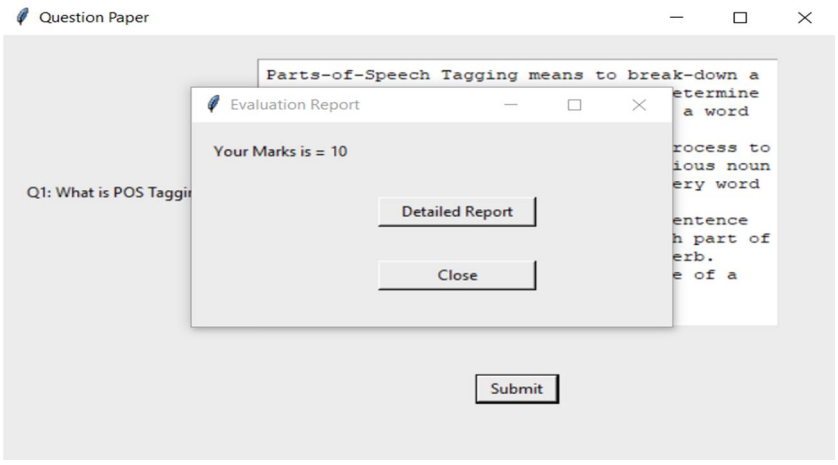
3) Stemming

Stemming is the process of producing morphological variants of a root/base word. Stemming programs are commonly referred to as stemming algorithms or stemmers. A stemming algorithm reduces the words “chocolates”, “chocolatey”, “choco” to the root word, “chocolate” and “retrieval”, “retrieved”, “retrieves” reduce to the stem “Retrieve”.

V. RESULTS



Screenshot of Marks Generated



Screenshot of detailed report

VI. CONCLUSIONS

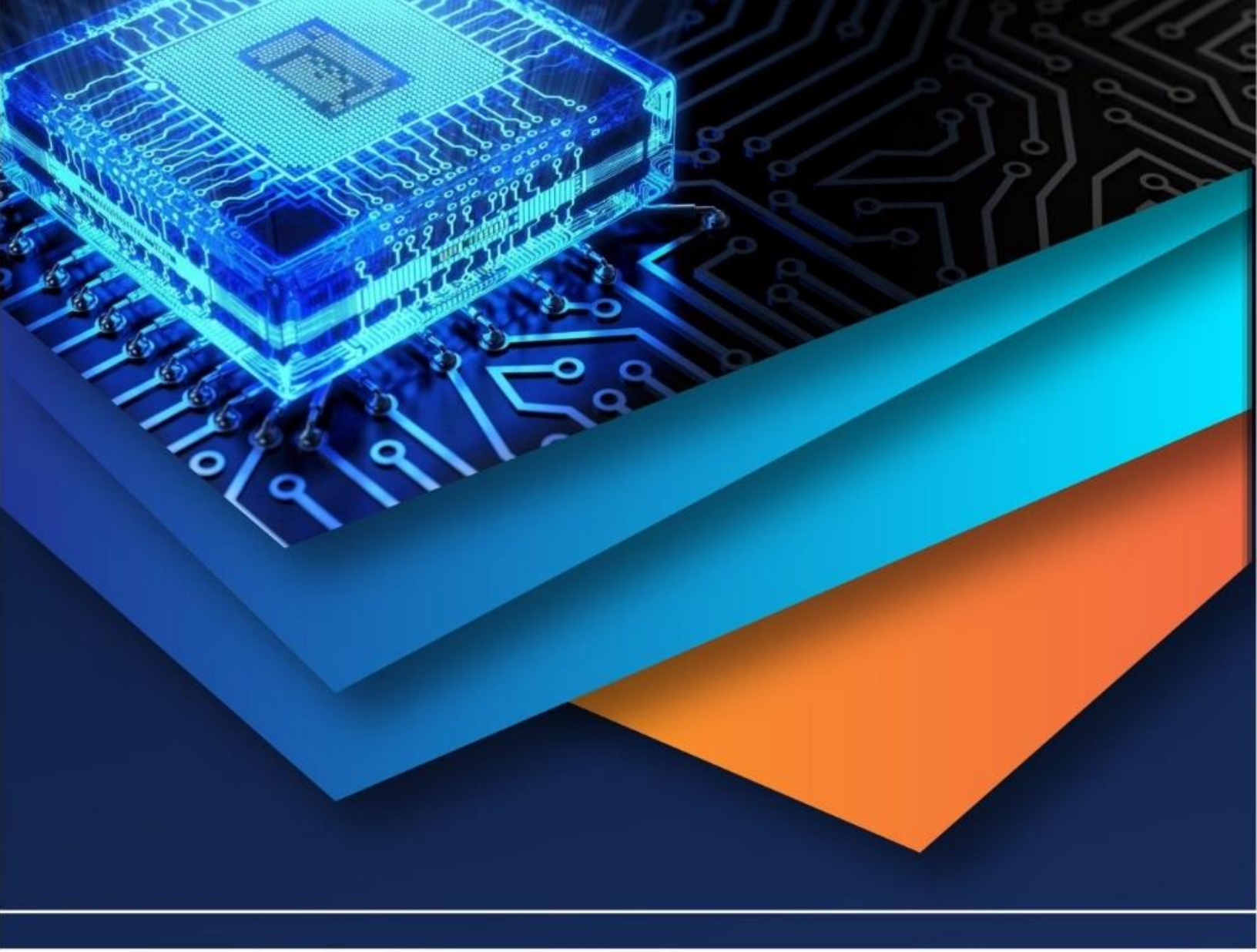
This system would be beneficial for the universities, schools and colleges for academic purpose by providing ease to faculties and the examination evaluation cell.By judging against the reference answer, marks are allocated to the student.Highest marks are gained if the student writes grammatically correct answers with all the keywords mention in the reference answer.Hence, the proposed system could be of great utility to the educators whenever they need to take a quick test for revision purposes ,as it saves time and the trouble of evaluating the bundle of paper

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REFERENCES

[1] G. Jagadamba and C. Shree G., ”Online Subjective answer verifying system Using Artificial Intelligence,” 2020 Fourth International Conference on I-SMAC (IoT in Social, Mobile, Analytics and Cloud) (I-SMAC), 2020, pp. 1023-1027.
[2] M. F. Bashir, H. Arshad, A. R. Javed, N. Kryvinska and S. S. Band, ”Subjective Answers Evaluation Using Machine Learning and Natural Language Processing,” in IEEE Access, vol. 9, pp. 158972-158983, 2021.
[3] S. Singh, O. Manchekar, A. Patwardhan, U. Rote, S. Jagtap and H. Chavan, ”Tool for Evaluating Subjective Answers using AI (TESA),” 2021 International Conference on Communication information and Computing Tech- nology (ICCICT), 2021.
[4] Johri, Era and Dedhia, Nidhi and Bohra, Kunal and Chandak, Prem and Adhikari, Hunain, ASSESS - Auto-mated Subjective Answer Evaluation Using Semantic Learning (May 7, 2021). Proceedings of the 4th International Conference on Advances in Science Technology (ICAST2021).
[5] Vasu Bansal M.L. Sharma and Krishna Chandra Tripathi, ”Automatic Answer-Checker” December 2020In-ternational Journal for Modern Trends in Science and Technology 6(12):152-155, DOI:10.46501/IJMTST061229
[6] Priyanka Gangane, Kesia S Babu, Pratiksha Lagad, Neha Vaidya, "On- line Subjective answer verifying system Using Artificial Intelligence,” 2023
[7] Prof. Archana V. Ugale1 , Mustakim Salim Pathan2 , Rushikesh Dilip Kekane3 , Sahantanu Gopinath Walunj4 , Priya Dinesh Khakorde 5, Pooja Santosh Bhadke6,"Online Subjective answer verifying system Using Artificial Intelligence”, 2022

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