**Project Proposal**

**Automated Essay Grading Using Natural Language Processing**

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## **Motivation**

The motivation for this project is to provide an automated solution to the time-consuming task of essay grading. This project will help to reduce the workload of teachers and provide timely feedback to students. Automated essay grading also has the potential to improve the quality and consistency of grading, which is important for ensuring fairness and equality in the education sector.

## **Significance**

The significance of this project is that it will provide an objective evaluation of the performance of different machine learning algorithms for automated essay grading. This evaluation will help to identify the most effective algorithm for automated essay grading, which will be useful for teachers and educational institutions. The project will also contribute to the development of automated essay grading technology, which has the potential to revolutionize the education sector. According to a study by Prasad et al. [2], this technology has been gaining popularity in the education sector as it reduces the workload of teachers, provides timely feedback to students, and improves the quality of grading. Dadi et al., [1], Salim et al. [3], and Darwish and Mohamed [4] among other scholars proposed several machine learning algorithms to automate the essay grading process. However, the scholars point out the low accuracy among other inefficiencies in their algorithms. In this regard, there is still need for further research to train and evaluate the performance of these algorithms on to identify the most effective algorithms for automated essay grading.

## **Objectives**

The main aim of this project is to evaluate the performance of five different machine learning algorithms for automated essay grading. The specific objectives of this project are as follows:

* + - 1. To preprocess and clean the dataset of graded essays for training and testing.
      2. To train the five machine learning algorithms on the training set of essays. The algorithms to be evaluated are Support Vector Machine (SVM), Random Forest (RF), Naive Bayes (NB), Decision Tree (DT), and K-Nearest Neighbor (KNN).
      3. To evaluate the performance of the five algorithms using the testing set of essays.
      4. To compare the performance of the five algorithms and identify the most effective one for automated essay grading.
      5. To provide recommendations for further research and improvement of automated essay grading using machine learning algorithms.

## **Features**

The features of this project include the evaluation of five different machine learning algorithms for automated essay grading. It will involve manually graded essays for training and testing, the model and comparing the performance of the algorithms to the manual grades. The project seeks to provide recommendations for further research and improvement of automated essay grading using machine learning algorithms.

Grading, which will help to improve the quality and consistency of grading in the education sector. The goals of this project are to provide a better understanding of the strengths and weaknesses of each algorithm and to provide recommendations for further research and improvement of automated essay grading using machine learning algorithms.

## **References**

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