

**HANDWRITTEN ANSWERSHEET EVALUATION APPLICATION**

#### A PROJECT REPORT

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# BONAFIDE CERTIFICATE

Certified that this project report **“HANDWRITTEN ANSWERSHEET EVALUATION APPLICATION”** is the bonafide work of **“ANANDHAN R (310917205003), SRIMATHI B (310917205036), SUBAKESHINI R (310917205038)** who carried out the project work under my supervision.

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#### ABSTRACT

Automatic evaluation of handwriting answers has been a difficult problem for education system for many years. To speeding up the evaluation remains as the major problem for enhancing the throughput of instructors. This paper shows an easy method for automatically evaluating the handwritten answers from the images. Our main goal is to build an application to evaluate a student's handwritten answer by assigning an evaluation score that is comparable to the human giving scores. Although many essay evaluation systems are available, short answer grading is still a tough problem. In the proposed system, build a application using tkinter, Optical Character Recognition tools are used to extract the keyword printed texts in keyword answer image and Google Vision API tools are used to extract the handwritten texts in student handwritten answer images. In the proposed model evaluates scores based on cosine similarity function. Each sentence in the evaluated answer paper carries their respective mark. The developed model can be used to evaluate and provide the marks of the student handwritten answer sheets. Our System is divided into three modules. The first and second one is extracting the data from the scanned printed text and handwritten answer images and organizing it in the proper manner and the third is applying NLTK and cosine similarity function from the above step and giving marks in screen.

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| **LIST OF ABBREVIATIONS** | |
|  |  |
| AES | Automated Essay Scoring |
| OCR | Optical Character Recognition |
| API | Application Programming Interface |
| NLTK | Natural Language Tool Kit |
| JSON | JavaScript Object Notation |
| GUI | Graphical User Interface |
| CNN | Convolutional Neural Network |
| RNN | Recurrent Neural Network |
| LSTM | Long Short-Term Memory |
| UML | Unified Modeling Language |
| VGSL | Variable Graph Specification Language |
| TF-IDF | Term Frequency – Inverse Document Frequency |