

# Study of Subjective Answer Evaluation using Natural Language Processing and Machine Learning

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**Abstract:** *Now a days, as we are moving towards automation there is a need for an automatic subjective answer evaluation system. Manual evaluation is a time and energy-consuming task. Currently, the online answer evaluation is available for mcq based question, hence evaluation of the theory answer is hectic for the checker. Evaluator manually checks the answer and allot the marks. Sometimes quality of evaluation may change according to mood of evaluator. The current system takes more manpower and time to evaluate the answer. It will be very helpful for educational institutions if the process of evaluation of descriptive answers is automated to capably assess student's exam answer sheets. The system will evaluate the answer based upon the number of words and number of letters from extracted text from the pre-processed data.*

**Keywords:** OCR, NLP, Contextual similarities, Semantic Analysis Grammatical Correction, TFID, Cosine-Similarity, Contradiction, Antonyms, Synonyms, Machine Learning

## REFERENCES

- [1] Chhanda Roy, Chitrita Chaudhuri, "Case Based Modeling of Answer Points to Expedite Semi-Automated Evaluation of Subjective Papers", in Proc. Int. Conf. IEEE 8th International Advance Computing Conference (IACC), 2018, pp. 85-9.
- [2] Aditi Tulaskar, Aishwarya Thengal, Kamlesh Koyande, "Subjective Answer Evaluation System", International Journal of Engineering Science and Computing, April 2017 Volume 7 Issue No.4.
- [3] Saloni Kadam, Priyanka Tarachandani, Prajakta Vetaln and Charusheela Nehete, "AI Based E-Assessment System", EasyChair Preprint, March 18, 2020.
- [4] Vishal Bhonsle, Priya Sapkal, Dipesh Mukadam, Prof. Vinit Raut, "An Adaptive Approach for Subjective Answer Evaluation" VIVA-Tech International Journal for Research and Innovation Volume 1, Issue 2 (2019).
- [5] Prince Sinha, Sharad Bharadia, Ayush Kaul, Dr. Sheetal Rathi, "Answer Evaluation Using Machine Learning" Conference-McGraw-Hill Publications March 2018
- [6] Rosy Salomi Victoria D, Viola Grace Vinitha P, Sathya R, "Intelligent Short Answer Assessment using Machine Learning" International Journal of Engineering and Advanced Technology (IJEAT), Volume-9 Issue-4, April 2020.
- [7] Sakshi Berad, Pratiksha Jaybhaye, Sakshi Jawale, "AI Answer Verifier", International Research Journal of Engineering and Technology (IRJET), Volume: 06 Issue 01; Jan 2019
- [8] V. Lakshmi and Dr V. Ramesh, "Evaluating students descriptive answer using natural language processing and artificial neural networks", in International Journal of Creative Research Thoughts (IJCRT), Volume 5, Issue 4, December 2017, pp. 3168- 3173.