



## Next-Generation Question Creation: A Machine Learning Perspective on Document-Driven Automation

Dr.Sudhir Mohod<sup>1</sup>, Arati Sawaj<sup>2</sup>

Department of computer science & Engineering, Bapurao Deshmukh College of Engineering Wardha, Maharashtra, India 442104

[sudhirwamanrao@gmail.com](mailto:sudhirwamanrao@gmail.com), [aratisawaj@gmail.com](mailto:aratisawaj@gmail.com)

\*\*\*

**Abstract** - Designing questions and answers is a necessary task when working for some organisations in the education and training sectors and even in some other fields with user interactions. However, the standard ways of doing it can be heavy on budget and resource. This work provides a brief description of a request online application built around AI to generate question and answer from text documents using recent NLP and machine learning techniques. Users that find the wizard interface of the web application (without having to register) dialogs very simple, will simply upload their text documents and get Questions and Answers in various formats including PDF, CSV and XLS. This paper presents a study on generating multiple-choice questions (MCQs) automatically quite distinctive from the fact that computer science education is a very evolving subject with multiple sub-domains.

**Key Words:** Question Generation, ML, NLP, Intelligent Question Creation, Educational Technology, Information Extraction, Bloom's Taxonomy Alignment, AI-Based Assessment Systems, Transformer Models

### 1. INTRODUCTION

Advances in technology in educational assessments have always result in new methodologies and practices in redefining existing conventional evaluation standards. A modern and different approach coming out of this technological change is using conditional CGANS for creating MCQs suited to an undergraduate computer science education A ground breaking technique which stands right at the edge of such a revolution is the generation of Multiple Choice Questions (MCQs) in the realm of computer science Granted this means that not only the assessment process is personalized but now also tailored for student proficiency at each stage. Diving deep into the mysteries of cGAN based MCQgeneration, and While edging away from the traditional methodology of assessment, OS-PCA optimized Bi tCGAN enabled cGAN's has provided a meaningful solution to the shortcomings of existing educational evaluation techniques

### 2. Body of Paper

The body of the paper consists of numbered sections that present

the main findings. These sections should be organized to best present the material.

It is often important to refer back (or forward) to specific sections. Such references are made by indicating the section number, for example, "In Sec. 2 we showed..." or "Section 2.1 contained a description..." If the word Section, Reference, Equation, or Figure starts a sentence, it is spelled out. When occurring in the middle of a sentence, these words are abbreviated Sec., Ref., Eq., and Fig.

#### 1: Sample for Create Sample Paper

Paper Title:  
Final exam 2026

Institution Name (Optional):  
Department of computer science & Engineering Bapurao Deshmukh College of Engineering Wardha

Total Marks:  
100

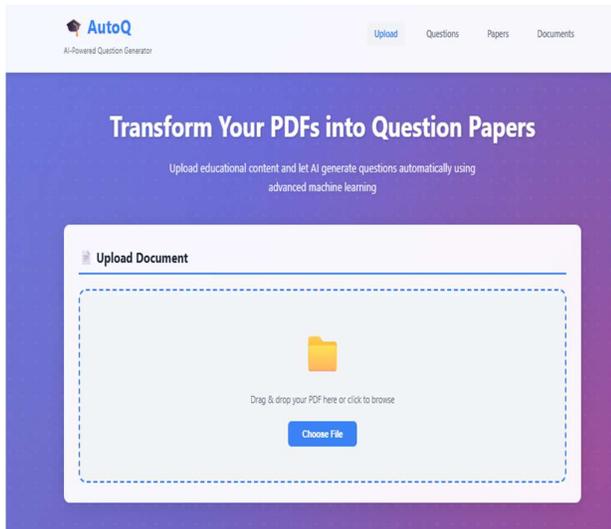
Duration (minutes):  
60

Instructions (Optional):  
1. Read the question paper carefully before answering.  
2. Use blue/black ink only to write answers.  
3. Mobile phones, smart watches, calculators, are strictly prohibited in the examination hall.

Include Answer Key

Create Question Paper

Inability to evaluate active or performance-oriented skills with physical representation necessary. Limited originality in creating innovative or quantitative question kinds. Trouble with handling intricate visual or spatial matter such as complex



**Fig -1:** Figure

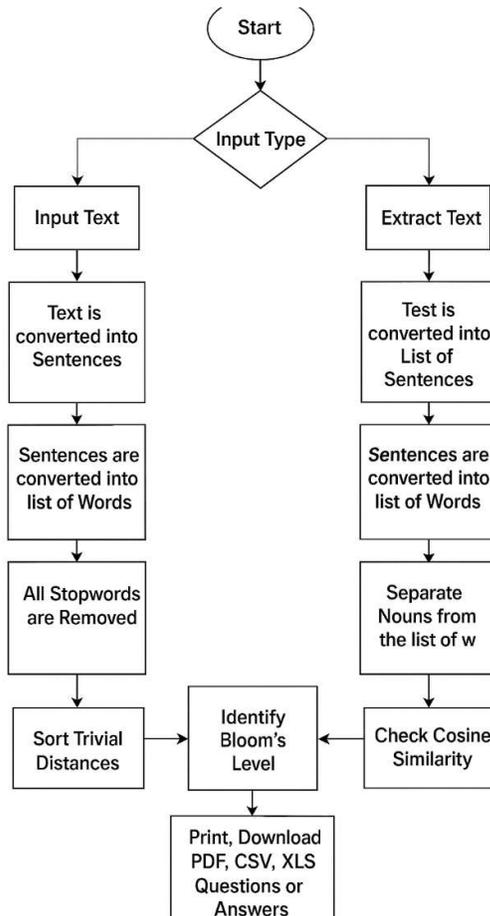
In conclusion, our team has come up with a pretty darned cool web app for asking questions from text given to us by organisations. We also demonstrated the usefulness app; and the feedback back was pretty good in terms of relevant questions. Our effort has shown that natural language processing can be applied to build tools for support of organizations. We are hopeful that this new technology can be used across a number of fields; from education to journalism and research etc. Automatic question paper generation based on AI is changing everything for educational assessment when it comes to efficiency, fairness and personalization.

### ACKNOWLEDGEMENT

Implemented a user-friendly web interface for document upload, question generation, and paper creation. Achieved consistent generation of 30+ questions per document with appropriate difficulty levels

Frontend Application: Responsive React-based interface with intuitive workflow.

Charts



### REFERENCES

- [1]. Lopez, Luis Enrico, et al. "Simplifying paragraph-level question generation via transformer language models." *Pacific Rim International Conference on Artificial Intelligence*. Cham: Springer International Publishing, 2021.
- [2]. Du, Xinya, Junru Shao, and Claire Cardie. "Learning to ask: Neural question generation for reading comprehension." *arXiv preprint arXiv:1705.00106* (2017).
- [3] Yuan, Xingdi, et al. "Machine comprehension by text-to-text neural question generation." *Proceedings of the 2nd Workshop on Representation Learning for NLP*. 2017.
- [4]. Zhou, Qingyu, et al. "Neural question generation from text: A preliminary study." *National CCF Conference on Natural Language Processing and Chinese Computing*. Cham: Springer International Publishing, 2017.
- [5]. Bauer, Lisa, Yicheng Wang, and Mohit Bansal. "Commonsense for generative multi-hop question answering tasks." *arXiv preprint arXiv:1809.06309* (2018).
- [6]. Liu, Bang, et al. "Asking questions the human way: Scalable question-answer generation from text corpus." *Proceedings of the web conference 2020*.
- [7]. Liu, Zhe, et al. "Fill in the blank: Context-aware automated text input generation for mobile gui testing." *2023 IEEE/ACM 45th International Conference on Software Engineering (ICSE)*. IEEE, 2023.
- [8]. Saleem, Shezin, and Thej Ratheesh. "Next-Generation Assessments: Automatic Question Paper Generation for Modern Classrooms." (2023).

### 3. CONCLUSIONS