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Submission Summary

Conference Name
Pacific-Asia Conference on Knowledge Discovery and Data Mining

Track Name
Research Track

Paper ID
9

Paper Title
Unlocking the Potential of Multiple BERT Models for Bangla Question Answering in NCTB Textbooks

Abstract
Evaluating text comprehension in educational settings is critical for understanding student performance and improving curricular effectiveness. This study investigates the capability of state-of-the-art language models—RoBERTa, Bangla-BERT, and BERT Base—in automatically assessing Bangla passage-based question-answering from the National Curriculum and Textbook Board (NCTB) textbooks for classes 6-10. We compiled a dataset of around 3,000 Bangla passage-based question-answering instances and evaluated the models using F1 Score and Exact Match (EM) metrics. Our findings indicate variable performance among the models with respect to the criteria examined. Bangla-BERT displayed superior performance in F1 Score, while RoBERTA underperformed among all the models. These outcomes suggest that machine learning models can be viable tools for evaluating text comprehension in educational textbooks, albeit with room for optimization. The study lays the groundwork for future research aimed at implementing automated evaluation systems in educational institutions and provides insights into the strengths and limitations of each model in the context of Bangla text comprehension.

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Primary Subject Area
Methods and algorithms -> Deep learning

Secondary Subject Areas
Methods and algorithms -> Model selection and evaluation

Submission Files
Unlocking_the_Potential_of_Multiple_BERT_Models.pdf (512.4 Kb, 9/8/2023, 12:05:41 AM)

Submission Questions Response
1. Eligibility for student paper award
Is (Are) the primary author(s) of this work a registered student (students) at the time of submission?

Yes

2. Submission Policy

I understand and confirm that:

1) This submission represents new and original work.

2) Concurrent submissions are not allowed.

3) This paper (or a substantially similar one) was not published in or accepted to any peer-reviewed journal or conference or workshop with published proceedings, is not currently under review, and will not be submitted to other meetings or publications while under review of PAKDD 2024.

4) If the submission is available in arXiv, the last submission date is on or before the date of one month before the submission deadline.

5) PAKDD has a strict policy against plagiarism and self-plagiarism. All previously published work must be appropriately cited.

6) If this paper is accepted, at least one author will complete the regular registration and attend the conference to present the paper. For no-show authors, the paper will not be included in the proceedings.

7) The submission adheres to the format guidelines specified in the call for papers.

8) Conflicts of interest are disclosed completely and correctly in the CMT system.

Agreement accepted