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Automatic Question Generation using NLP

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11



INTRODUCTION

Question generation is an essential aspect for various use-cases centered around evaluation methodologies.

Manual generation is a tedious and time-consuming process for instructors/ evaluators.

It is important that questions framed are unbiased, not human-dependent and comprehensive to cover the entire scope of the context being tested.



PROBLEM STATEMENT

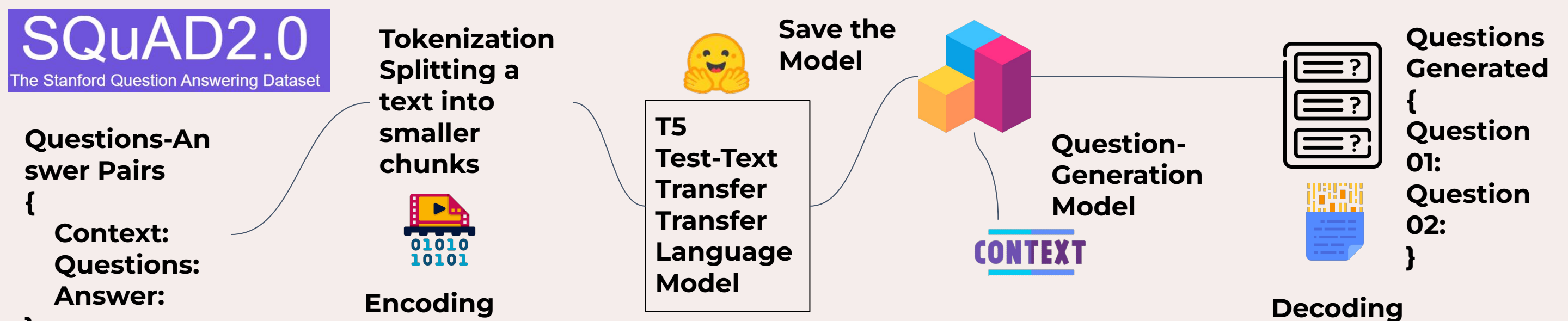
To develop an automatic question generator (AQG) using NLP that can generate a set of questions from a given paragraph of text using test-to-text transformer-based transfer (T5) learning models, which can emphasize the critical points of a sentence and the language structure to generate questions without the creator inputting profound grammar rules.



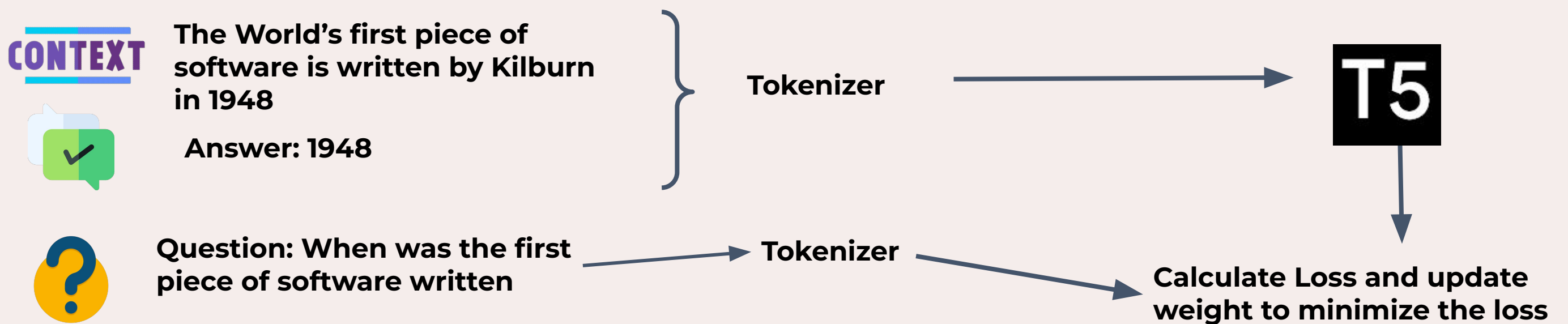
OBJECTIVE

- To produce syntactically sound, semantically valid, and relevant questions from a given text or passage.
- Each generated question has a discrete target answer.
- To form questions which are unbiased, not human-dependent and comprehensive to cover the entire scope of the context.

PROJECT METHODOLOGY



QUESTION GENERATION PROCESS ON T5 MODEL



RESULTS AND REFERENCES



RESULTS

CONTEXT

President Donald Trump said and predicted that some states would reopen this month.

ANSWER

Donald Trump

QUESTIONS

- Who predicted that some states would reopen this month?
- Who said and predicted that some states would reopen this month?
- Who said that some states would reopen this month?



CONCLUSION

Our work aims to automatically generate multiple questions from a given paragraph of text using NLP. The approach used is test-to-text transformer-based transfer (T5) learning models, which can emphasize the critical points of a sentence and the language structure to generate questions without the creator inputting profound grammar rules. The T5 AQG model is trained on the Stanford Question Answering Dataset (SQuAD) version 2.0.



REFERENCES

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- [3] G. Kumar, R. E. Banchs and L. F. D'Haro, "Automatic fill-the-blank question generator for student self-assessment," 2015 IEEE Frontiers in Education Conference (FIE), 2015, pp. 1-3, doi: 10.1109/FIE.2015.7344291.