

Indonesian Automatic Question Generator Using IndoBERT Method and T5 Transformer

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ABSTRACT

Manual construction of questions is a tedious and complicated process. Automatic Question Generation (AQG) methods work towards diminishing these costs and to fulfil the requirement for a persistent supply of new questions. Current AQG techniques utilize complicated architectures, that require intensive computational resources as well as a deeper understanding of the subject. In this paper we propose an end-to-end AQG system that utilises the power of a recently introduced transformer, the Text-to-Text Transfer Transformer (T5). We use the pre-trained T5 model and fine-tune it for our down-stream task of question generation. Our model performs very well on unseen data and generates well-formed and grammatically correct questions. These questions can be used directly by students, to examine their own level of understanding, and teachers, to quickly reinforce key concepts whenever required. The model has also been deployed in the form of a web application for public access. This application serves as an educational tool using which any individual can assess their knowledge and identify areas of improvement. This model achieved BLEU-1, BLEU-2, BLEU-3, BLEU-4, and ROUGE-L scores of 36.54, 28.24, 22.61, 18.44, and 39.57, respectively. Our model performs well and generates questions in understandable Indonesian with good word choice and grammar based on manual validation.

Kata Kunci: *AQG, NLP, question generator, IndoBERT, transformer, T5*