

Abstract

Questions are an important tool in learning to help students build understanding and encourage critical thinking. Technology can be utilized to support learning, including question creation and evaluation. Question classification is essential in the learning process because it allows you to recognize different questions based on their topic, difficulty level, or unique learning objectives. Furthermore, determining the level of difficulty is critical to ensure learning effectiveness. Using a graph attention network (GAT) as the base, this research suggests a text classification model for questions. The GAT model was chosen for its ability to capture the interaction between words in a sentence by modeling the question as a graph. By utilizing the attention mechanism, GAT allows each word to selectively pay attention to its neighboring words in the graph so that it can effectively capture the context and semantics of complex questions. There will be 10 categories used in this research. These 10 categories consist of concept, verification, procedural, comparison, cause, judgmental, extent, example, disjunction, and consequence. This research tried to classify questions using a dependency tree as graph construction and the GAT model as graph representation learning. The experimental results show that the model achieved 0.7056 accuracies and 0.6733 F1-score.

Keywords: question classification, graph attention network, attention mechanism, classification