Multi-level graph neural network for text sentiment analysis

Sentiment analysis is one of the research fields of NLP and text sentiment analysis is a fundamental task in the field of natural language processing .This paper proposes a GNN model MLGNN with different sizes of connection windows at different levels, in which the node representations are updated with different message passing mechanisms. Also , this paper propose a novel multi-level graph neural network (MLGNN) for text sentiment analysis. To consider both local features and global features, the author applied node connection windows with different sizes at different levels. Particularly, they integrate a scaled dot-product attention mechanism as a message passing mechanism into their method for fusing the features of each word node in the graph. The experimental results demonstrated that the proposed model outperformed other models in text sentiment analysis tasks.