186. Deep API Directive Detection (Weak Reject)

This paper proposes a novel deep learning based approach named DeepDir, aimed to detect API directives on the basis of tackling the imbalance between directives and non-directives and multiple morphologies of directives. Firstly, it over samples API directives in the class imbalanced training set. Then it trains a Bidirectional Long Short Term Memory (Bi-LSTM) network to capture the semantic differences. Finally, a sentence can be predicted whether it is a directive by the trained Bi-LSTM network. The evaluations of the approach focus on 3 research questions and the results shows the approach significantly improves the state-of-the-art approach with all of metrics.

Framework:

1. Viewing the work from a technical perspective, I have difficulty to identify its key novelties. Because including the word embedding and Bi-LSTM network, they are well-known model.
2. Besides, there are some ways to over sample, but the authors did not mention which method was used in Section III.

Evaluation:

1. The content of introducing the dataset is too much as well as the evaluation metrics.
2. Moreover, there is no need to introduce ten-fold cross validation in detail.
3. The experiment lacks scalability owing to the single chosen data set.
4. The explanation about why DeepDir-Over achieves a Precision of 0% in the Java API specification is not convincing. Because the proportion of directives in the JFace API specification is also small (6.62%), but the result is far from the Java’s.
5. Maybe some descriptions and examples about the difference of the directives be detected by your approach and baseline can introduce. So that we can better understand the significance of your approach.