READING REPORT 2

The Social Impact of Natural Language Processing

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INFO 5082 Section 020 - Seminar in Research and Research Methodology

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The Social Impact of Natural Language Processing

Summary:

In the paper “The Social Impact of Natural Language Processing” the author has first explained about the researches which have done on natural language processing to handle risk and also the importance of the NLP in different fields like medical, social .

Extensive outline:

Although NLP was first restricted by the IRB guidelines but later on due to the increase in the use of data it takes a key roll in the field of data science .There are some Data driven approaches (Nadkarni et al.,2011) like hidden Markov model, conditional random fields and N-gram which are used to perform analysis.

In Natural language processing we have some social impact on language research because languages can impact different societies. NLP works on the demographic data where we can predict the universe and overgeneralization which detects the frauds. Dual-use problems where it was used to detect the fake users. NLP impacts not only on the society but also correspond minimally to human thought processes by Statistical-NLP(Ohno-Machado, L., & Chapman, W. W. et al.,2011)

Limitations and Extensions:

NLP is one of the oldest technique used to analyze the text data but it came into the bright light from 2010 due to the increase in the use of data. There are different machine learning techniques like sentiment analysis, text classification which are used to perform analysis . There are also some limitations for NLP techniques which can not produce accurate results .so, to overcome this problem we need to use some deep learning techniques and due to lack of experienced deep learning professionals has a terrible impact on the analysis.

Opinion:

In my opinion natural language processing has a large impact in the field of data science and also we need a highly workable technique which can analyze different languages with different opinions of the user by analyzing there personal data .so, all of the guidelines

References:

Nadkarni, P. M., Ohno-Machado, L., & Chapman, W. W. (2011). Natural language processing: an introduction. *Journal of the American Medical Informatics Association*, *18*(5), 544-551.

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A Survey on Text Classification: From Traditional to Deep Learning

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A Survey on Text Classification: From Traditional to Deep Learning

Summary:

Text classification is one of the Natural Language Processing technique which is used to analyze the textual data from different languages. Here it performs majorly two different types of methods one is traditional method and Deep Learning method out of this two deep learning method has the best score

Extensive outline:

In Text Classification the date is first preprocessed and then we use the traditional method where it will extract features (Even with a very minimal amount of training data, features are excellent at differentiating documents.)here we consider traditional machine learning techniques such as Support Vector Machine, Naive Bayes and Logistic Regression, Random forest Classifier and Multi-layer Perceptronand to evaluate the result(Kamath et al.,2018) in the same way while performing deep learning method we consider CNN (convolutional neural network) is used to extract key information similar to n-gram in sentences and RNN(Cai, J., 2018). Text classification uses personal data or customers comments data etc., for performing the classification every data set is in the form of text of length 10,000-20,000. There are different challenges in the data collection and preprocessing because all of the textual data we are using for this classification is unstructured and unlabeled.

Limitations and Extensions:

In the present world there are no full accurate model that satisfies the classification.so, it was very difficult while performing on the sentiments of different language texts. Text classification is skyrocketing because of the large growth in online marketing and sales .

Opinion:

In my opinion, the author provided a clear explanation about both the traditional and deep learning model and clarified the best model among them based on the accuracy score and I also agree with the authors conclusion based on the accuracy .

References:

Kamath, C. N., Bukhari, S. S., & Dengel, A. (2018, August). Comparative study between traditional machine learning and deep learning approaches for text classification. In *Proceedings of the ACM Symposium on Document Engineering 2018* (pp. 1-11).

Cai, J., Li, J., Li, W., & Wang, J. (2018, December). Deeplearning model used in text classification. In *2018 15th international computer conference on wavelet active media technology and information processing (ICCWAMTIP)* (pp. 123-126). IEEE.

Thank You