Information Processing and Retrieval Project Report – Part 1

Instituto Superior Técnico – Universidade de Lisboa

Margarida Costa  
 83425

Marta Aparício  
 83525

Paulo Alves  
 83538

ABSTRACT

This report focuses on automatic keyphrase extraction, applied to two datasets: the 20-newsgroup collection and the SemEval-2010 Benchmark dataset. To accomplish such task information retrieval models (TF-IDF, B25, …), classifiers (…) and methods of entity recognition are used.

Introduction

To address the problem – automatic keyphrase extraction – two main alternatives are explored: a simple approach based on TF-IDF; and a supervised approach.

The simple approach based on TF-IDF has three phases: First is implemented a simple baseline approach, that applies the keyphrase extraction method to an English textual document; Secondly its implementation is evaluated, based on metrics such as precision, recall, F1 score, mean value for the precision@5 and mean average precision; Lastly is improved by candidate selection, candidate scoring and (CREATIVE).

The supervised approach resorts to classification algorithms and a set of features (USED FEATURES), the results are then evaluated by (CONFUTION MATRIX AND SO ON).

The 20-newsgroup collection is only used for the baseline implementation of the simple approach based on TF-IDF.

1 Simple approach based on TF-IDF

The libraries “sklearn” and “nktl” were used, together with the documents from the 20newsgroups collection.

The updated template, user manuals, samples, and required fonts, all are available at the URL <https://www.acm.org/publications/proceedings-template>. It contains said information for all three versions of MS Word (Windows and 2 versions of Mac). There are also separate links to the user guide, which can be referred to by the user. This URL also contains some useful video links, which describe how to add the template, structure the paper, and generate the layout, in different clips. **Display Formula with Number**

 (1)

**Continuation part of Paragraph Text** The user must style this paragraph in **ParaContinue** style, which follows immediately after the **DisplayFormula** (numbered equation). The **DisplayFormula** style is applied only in case of a numbered equation. A numbered equation always has a number to its right. Insert paragraph text here. **Display Formula without Number**



The **DisplayFormulaUnnum** style is applied only in case of an unnumbered equation. An unnumbered display equation never contains an equation number to its right, and this unique property distinguishes it from a numbered equation.



Figure 1: Figure Caption and Image above the caption [In draft mode, Image will not appear on the screen]

**Theorem/Proof/Lemma.** Insert text here for the enunciation or Math statement. Insert text here for the enunciation or Math statement. Insert text here for the enunciation or Math statement. Insert text here for the enunciation or Math statement. Insert text here for the enunciation or Math statement.

....Insert text here for the Quotation or Extract, Insert text here for the Quotation or Extract, Insert text here for the Quotation or Extract, Insert text here for the Quotation or Extract, Insert text here for the Quotation or Extract, Insert text here for the Quotation or Extract.

1.1 Heading Level 2

In the below paragraph, it is explained how alt-txt value is placed in **MS Word 2010**. To add alternative text to a picture in Word 2010, follow these steps:

1. In a Word 2010 document, insert a picture.
2. Right click on the inserted picture and select the **Format Picture** option.
3. Select the **Alt Txt** option from the left-side panel options.
4. In the "Title:" and "Description:" text boxes, type the text you want to represent the picture, and then click "Close".

Below are steps to place alt-txt value in **MS Word 2013/2016**. To add alternative text to a picture in Word 2013/2016, follow these steps:

1. In a Word 2013/2016 document, insert a picture.
2. Right click on the inserted picture and select the **Format Picture** option.
3. In the settings at the right side of the window, click on the "Layout & Properties" icon (3rd option).
4. Expand **Alt Txt** option.
5. In the "Title:" and "Description:" text boxes, type the text you want to represent the picture, and then click "Close".

*1.1.1 Heading Level 3.* Insert paragraph text here. Insert paragraph text here. Insert paragraph text here. Insert paragraph text here. Insert paragraph text here. Insert paragraph text here. Insert paragraph text here. Insert paragraph text here. Insert paragraph text here. Insert paragraph text here. Insert paragraph text here.

*1.1.1.1 Heading Level 4.*Insert paragraph text here. Insert paragraph text here. Insert paragraph text here. Insert paragraph text here. Insert paragraph text here. Insert paragraph text here. Insert paragraph text here. Insert paragraph text here. Insert paragraph text here. Insert paragraph text here. Insert paragraph text here.

ACKNOWLEDGMENTS

Insert paragraph text here. Insert paragraph text here. Insert paragraph text here. Insert paragraph text here. Insert paragraph text here. Insert paragraph text here. Insert paragraph text here. Insert paragraph text here. Insert paragraph text here. Insert paragraph text here. Insert paragraph text here.

REFERENCES

[1] FNM Surname (2018). Article Title. Journal Title, 10(3), 1–10.

[2] F.N.M Surname, Article Title, https://www.acm.org/publications/proceedings-template.

[3] F.N.M Surname and F.N.M Surname, 2018 Article Title, The title of book two (2nd. ed.). Publisher Name, City, State, Country.

[4] Ian Editor (Ed.). 2018. *The title of book two* (2nd. ed.). University of XXX Press, City, Chapter 100. DOI: <http://dx.doi.org/10.1000/0-000-00000-0>.

Conference Name:ACM Woodstock conference

Conference Short Name:WOODSTOCK’18

Conference Location:El Paso, Texas USA

ISBN:978-1-4503-0000-0/18/06

Year:2018

Date:June

Copyright Year:2018

Copyright Statement:rightsretained

DOI:10.1145/1234567890

RRH: F. Surname et al.

Price:$15.00