Automatic Metadata Extraction: The High Energy Physics Use Case

Joseph Boyd

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Lack of support for numeric features imposes constraints on the choice of features possible. Any numeric-based idea must be discretised

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3.1 Metadata Extraction

3.2 Related Work

3.3 GROBID

[Show here Grobid vs. refextract]

4 Implementation and Data

4.1 Extensions

4.2 Data Acquisition

5 Results and Analysis

$$\mathrm{lev}_{a,b}(i,j) = \begin{cases} \max(i,j) & \text{if min(i, j)} = 0 \\ \min \begin{cases} \mathrm{lev}_{a,b}(i-1,j)+1 \\ \mathrm{lev}_{a,b}(i,j-1)+1 \\ \mathrm{lev}_{a,b}(i-1,j-1)+1_{a_i \neq b_j} \end{cases} & \text{otherwise} \end{cases}$$

$$\text{similarity}_{a,b} = 1 - \frac{\mathrm{lev}_{a,b}(|a|,|b|)}{\max(|a|,|b|)}$$

5.1 Experiment Setup

Months of CPU time? (parallelised), 64 experiments (before an combination experiments are run) Mind you, though we aren't explicitly interested in identifying headnotes, footnotes, page numbers etc., correctly classifying them does spare the important categories (header, references) from garbage data.

5.2 Evaluation Method

5.3 Baseline

5.3.1 Header model - Cora dataset

5.3.2 Header model - Cora dataset appending HEP dataset

5.3.3 Header model - Cora and HEP combined datasets

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5.4 Regularisation

5.4.1 Header model - $L2 = 0$

5.4.2 Header model - $L2 = 1e^{-6}$

5.4.3 Header model - $L2 = 1e^{-5}$

5.4.4 Header model - $L2 = 1e^{-4}$

5.4.5 Header model - $L2 = 1e^{-3}$

5.5 Dictionaries

5.5.1 Header model - HEP dataset

5.5.2 Header model - HEP dataset appending CORA dataset

5.5.3 Segmentation model - HEP dataset

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5.5.5 Header Model - HEP dataset - 2^{nd} Degree Features

5.5.6 Header Model - HEP dataset Appending CORA - 2^{nd} Degree Features

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5.5.8 Header Model - HEP dataset Appending CORA - 3^{rd} Degree Features

5.6 Dictionaries + stop words

7 References

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