UNIVERSITY OF BIRMINGHAM

Final Year Project

Extracting Key Phrases and Relations from Scientific Publications

Dissertation for B.Sc in Computer Science

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Declaration

The material contained within this thesis has not previously been submitted for a degree at the University of Birmingham or any other university. The research reported within this thesis has been conducted by the author unless indicated otherwise.

Acknowledgements

I would like to give acknowledgement to those who helped me throughout the completion of this project.

Firstly, a thank you to Dr Mark Lee for being a supportive and informative supervisor, as well as an entertaining host during project meetings.

I also wish to thank my friends and family in supporting me during the year leading preceding this dissertation, ensuring I kept on track and in a good frame of mind.

Abstract

Keywords

Contents

List of Figures

List of Tables

1 Introduction

1.1 Aims and Objectives

1.2 Report Outline

2 Background and Literature Review

Do the literature review here

3 Analysis and Specification

Say what I'm going to do, but probably a bad idea to have a section for this. It may work better to just have a all of the 'what im doing' in each section when we get there.

4 The ScienceIE Task: Specification, Design and Implementation

A break down of each sub task follows...

4.1 Subtask 1 - Key Phrase Extraction

A section all about what I did for part 1

4.1.1 Method 1: Support Vector Machine

Go through making the SVM and what tests helped a lot. As part 2 has already been described, I think it makes sense here to mention I tried adapting this slightly for task 2 but that it went terribly.

4.1.2 Method 2: Clustering

Talk about the experimentation with clustering.

4.2 ScienceIE Subtask 2 - Key Phrase Classification

A section all about what I did for part 2

4.2.1 Word2Vec Classification

Talk about using word2vec to simply find a good way to quickly classify key phrases with decent results. *** Where do I fit the SVM for this, as not worth a whole section

4.3 ScienceIE Subtask 3 - Relation Extraction

A section all about what I did for part 3

4.3.1 Support Vector Machine

Discuss the SVM I tried to do this with (including Word2Vec)
    and hopefully more to come...

5 The ScienceIE Task: Evaluation

How each section went, including test results and maybe some info on other experiments.

5.1 Subtask 1 - Key Phrase Extraction

5.1.1 Conclusion

5.2 ScienceIE Subtask 2 - Key Phrase Classification

5.2.1 Conclusion

5.3 ScienceIE Subtask 3 - Relation Extraction

5.3.1 Conclusion

6 Discussion

Talk about overall results

6.1 Improvements

7 Creating a Service

Write about the GUI and all that went into that (probably a similar length to NLP part 1, although less (academic) references). Should already been introduced.

7.1 Further Research

Discuss the resources used to design maybe? Make sure to include research on searching I did...

7.2 Design and Implementation

How it was pulled off

7.3 Web Interface

Exactly what was achieved

7.4 Testing

(Get) user feedback

7.5 Conclusion

Overall impact of the GUI on the project

References