
The Title of Your Dissertation

Jacob Barrow - 40337360

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Abstract

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I would like to thank...

1 Introduction

1.1 Overview Of Project Milestones

2 Background Research

2.1 The Problem with Incongruence

For people who read beyond the headlines - Ecker, Lewandowsky, Chang, and Pillai (2014) ran experiments that investigated how headlines effect the processing of the facts in news "Information that is initially accepted as valid but is later found to be incorrect can have a persistent influence on people's memory and reasoning"

Chesney, Liakata, Poesio, and Purver (2017) talk about the differences between clickbait, fake news, sensationalism and incongruent headlines. Also covers the need for a decent labelled dataset

2.2 Existing Approaches

A range of studies have already considered several aspects of this project.

Manjesh, Kanakagiri, Vaishak, Chettiar, and Shobha (2017) used Natural Language Processing (NLP) to identify 'clickbait' headlines, however they did not consider the headline's relationship to the article.

2.3 Possible Approaches

2.3.1 Neural Networks and Deep Learning

2.3.2 Natural Language Processing

3 Data Collection

3.1 Attributes

Before collecting the data, it's important to decide what form it'll take and what attributes will be stored.

As the aim of the project is to identify incongruence between an articles headline and body, these two attributes will be included in the dataset. In order to identify trends and allow for further analysis, the article's date of publication and the publisher (e.g. BBC, The Guardian, etc.) will also be stored.

Collection could have gone further and retained the articles category (e.g. 'politics', 'sport' etc.), but different publishers categorise articles in different ways - for instance, the BBC has a combined 'Science and Environment' category, whereas The Guardian splits these into two distinct categories. Additionally, similar news articles can be filed under different categories, depending on the publisher. As this project's focus is on the article's content, and not categorisation, it can be considered out of scope to investigate the interplay between different publisher's approach to categorising articles.

3.2 Sources

The Independent is one of the only online publishers to make available their entire archives. Using the methods mentioned in Section 3.3, XXX articles were collected, from 2011 to 2020. This 9-year period should prove a useful dataset to analyse a potentially changing landscape in the congruity of news headlines.

The BBC has an 'On This Day' page¹ that has a very select archive from 1950-2005, and analysing these articles could produce some interesting results. However, each of these articles will have been hand-picked (as evidenced by the 'In Context' notes alongside each article), and only represent historic world news events. Therefore, these articles will not be a suitable representation for the average of the time period they are from.

As well as archives, current news was also collected from a range of publishers. A varied range of UK publishers were selected, in order to create a cross

Table 1 shows the full list of data sources collected, as well as the time range they cover and the total records obtained.

Publisher	Earliest	Latest	Total
BBC (Archive)	1950-01-21	2005-12-11	1857
The Independent (Archive)	2011-01-01	XXX	XXX
BBC (Daily)	2019-04-18	XXX	XXX
Daily Mail (Daily)	2019-09-24	XXX	XXX
The Guardian (Daily)	2020-06-25	XXX	XXX

Table 1: Extents of the data sources collected

¹<http://news.bbc.co.uk/onthistoday>

3.3 Obtaining the Data

To collect the data, several Python scripts were created. For the daily news, the publishers' various RSS feeds were consulted, and for the archives a more customised approach was taken.

These scripts utilise the BeautifulSoup library to parse each article's webpage and scrape them for the headline, date and body text. As each publisher builds their websites using different design patterns and with different technologies, each script had to be tailor made to fit the page structure.

In addition, some sites implemented a strict rate-limit on requests - to make a copy of The Independent's archive took around XXX days to complete, scraping one article every 15 seconds.

3.4 Ethics

Across a variety of datasets, XXX articles were collected for analysis. This is a substantial amount of data, and represents the work of many individual journalists and news publishers.

While automated techniques were used to collect the data, everything collected was publically accessible. In addition, it is legal to make a digital copy of copyrighted data for non-commercial research ². Even so, care still needs to be taken in the obtainment of the data in order to avoid overloading or altering the regular service of these archives. As mentioned above, requests were rate-limited to avoid inadvertant denial of service attack, and spread out over a long period of time. Additionally, the rolling news was only collected once per day, at midnight, in order to minimise the impact of the scraping.

²<https://www.gov.uk/guidance/exceptions-to-copyright#text-and-data-mining-for-non-commercial-research>

References

- Chesney, S., Liakata, M., Poesio, M., & Purver, M. (2017). Incongruent headlines: Yet another way to mislead your readers. In *Proceedings of the 2017 emnlp workshop: Natural language processing meets journalism* (pp. 56–61).
- Ecker, U. K., Lewandowsky, S., Chang, E. P., & Pillai, R. (2014). The effects of subtle misinformation in news headlines. *Journal of experimental psychology: applied*, 20(4), 323.
- Manjesh, S., Kanakagiri, T., Vaishak, P., Chettiar, V., & Shobha, G. (2017). Clickbait pattern detection and classification of news headlines using natural language processing. In *2017 2nd international conference on computational systems and information technology for sustainable solution (csitss)* (p. 1-5).

Appendices

A Project Overview

A.A Example sub appendices

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B Second Formal Review Output

Insert a copy of the project review form you were given at the end of the review by the second marker

C Diary Sheets (or other project management evidence)

Insert diary sheets here together with any project management plan you have

D Appendix 4 and following

insert content here and for each of the other appendices, the title may be just on a page by itself, the pages of the appendices are not numbered, unless an included document such as a user manual or design document is itself pager numbered.