

# Curtin University

## AI in Research Examples: Sentiment analysis



Using around 200 million pages from local newspapers in the United States, collected over a time period of 170 years, these researchers used current AI technologies to measure economic sentiment.

This novel approach to extracting sentiment from millions of pages outperformed all previous work, presenting a deeper sentiment analysis as well as being able to process many more pages than ever completed. Link to research paper: [https://papers.ssrn.com/sol3/papers.cfm?abstract\\_id=4261249](https://papers.ssrn.com/sol3/papers.cfm?abstract_id=4261249)



Figure 1: AI generated image of sentiment from a newspaper

### How did they achieve this?

The researchers used a combination of 2 techniques called Word2Vec and Sentprop.

Word2Vec is a method that captures the meaning of words and phrases within the context it is used. This allows for the system to understand the nuances of the language used in the newspaper at a deeper level compared to just positive or negative words.

The next technique, Sentprop, is a way to measure the overall sentiment of the newspaper or other text documents. This method uses a continuous sentiment measurement based on the Word2Vec results rather than the baseline word-count techniques.

### Why was this not possible previously?

Previous work in this field used very basic techniques of counting preset positive or negative words, therefore not capturing an accurate sentiment analysis.

With the very recent improvements in language models in accuracy and speed it is now possible to process millions of documents with contextually aware sentiment.

### How is this applicable to you?

With the improvements in the AI field, sentiment analysis has become a simple task that can process millions of documents and present accurate insights to the information provided.

This technique can be used on any set of text documents, not just news articles, and therefore can be very applicable to you as a researcher.

### Similar research areas



Survey responses



Patient feedback in the healthcare system



Social media discussions in many fields



Political speeches and news articles to get an insight of public opinions