

CS 410 Final Project Report  
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## **Sentiment Analysis Tool (Option 5: Free topic)**

This project aims to help students improve paper-reading and -writing ability by providing sentimental and keyword analysis.

### **Midway Topic Change:**

Since during our original planned project implementation - EducationalWeb, we encountered too many unforeseen obstacles, we midway decided to switch something new - this sentimental analysis project. We have completed the project for giving feedback on the sentiment and giving scores for the sentimentals. We may keep working on the frontend later to to improve the user experience.

### **Technology Used**

Programming language: Python

Microsoft Azure

Azure.ai.textanalytics library

Azure.core.credentials library

Azure.cognitiveservices library

Msrest.authentication library

### **Sample**

#### **Sample Input Text/Paper**

With Clorox's purchase of Burt's Bees, they now have an insight into the eco-friendly consumer market that not many of their competitors do not have. According to research done by Clorox, "53% of consumers" plan on purchasing more eco-friendly products within the next year. These consumers are also willing to pay more for those eco-friendly products. The information provided tells us there is now a need for more eco-friendly products in the consumer market. Clorox will be able to charge more for these "luxury" products, which can be up to 57% more than standard (not eco-friendly) products. Clorox will now be in the position to set the standard of what natural cleaning products should be and will be making a profit from their efforts. Another benefit for

## Sample Output Result

```
Results of program running of text analytics
Document Sentiment: mixed
Overall scores: positive=0.490; neutral=0.170; negative=0.340

[Offset: 0, Length: 233]
Sentence 1 sentiment: negative
Sentence score:
Positive=0.020
Neutral=0.440
Negative=0.540

[Offset: 234, Length: 218]
Sentence 2 sentiment: positive
Sentence score:
Positive=0.940
Neutral=0.050
Negative=0.010

[Offset: 453, Length: 138]
Sentence 3 sentiment: positive
Sentence score:
Positive=0.630
Neutral=0.320
Negative=0.050
```

## Outcomes and Results

- In the rendered, according to every sentence, it will give a score to the phrase.
- Sentimental analysis will be given to each one of the sentences.
- The high scores on both positive and negative will be noticed because it does not follow the required neutral tone of the essay.

*050B.docx* is the sample file we test for the sentimental analysis.

For *grammercheck.py*, it is the code for checking the right wording for the whole paper.

*Main.py* stores the user side code for this project.

## Video Presentation

[https://mediaspace.illinois.edu/media/1\\_h6ncumvp](https://mediaspace.illinois.edu/media/1_h6ncumvp)