ZHOUNING MA

Text Summarization Tool

User Manual

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Features

Today's world is information explosion world and people receive hug amount of news, documents and text context. The amount of text requires to be effectively summarized for usage. It is impossible to do that all by human while automatic text summarization is an important technology to solve this problem.

This software 'Text Summarization tool' are able to do the text summarization. The current version is using extractive summarization method. The tool supports the following algorithms:

- Luhn[i] - is a heuristic method
- Text Rank[ii] - exploits the structure of the text and determine key words "central"
- LSA - Use the latent semantic analysis technique to identify semantically import sentences.
- Lex Rank[iii] – Unsupervised approach inspired by PageRank
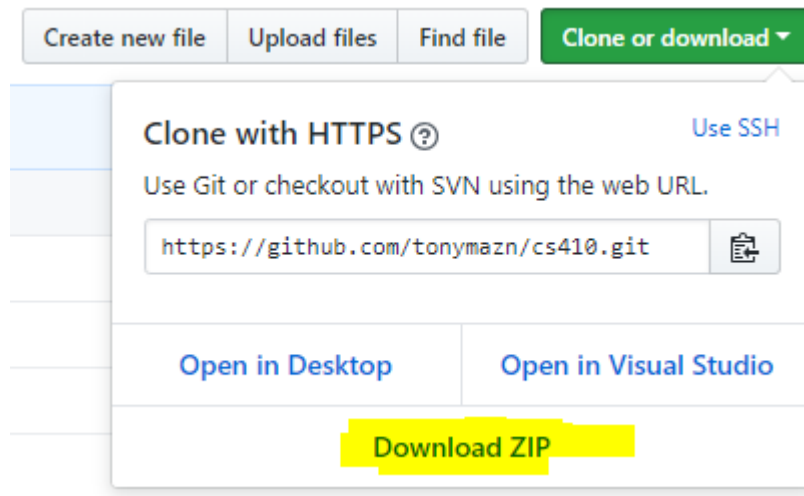
System Requirement

- Windows, Linux, Mac
- Python 3.0 or above with pip

Download the code

1. Go to https://github.com/tonymazn/cs410
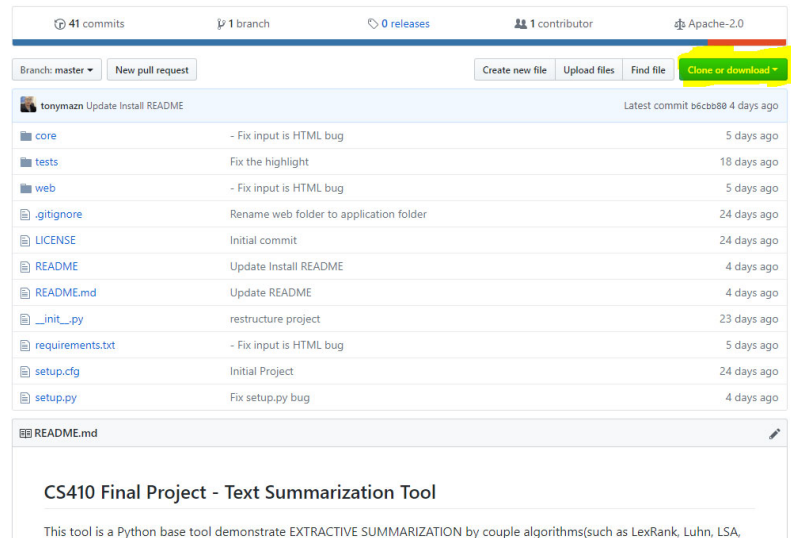
2. Click "Clone or download" button

3. Selected "Download ZIP" option, will download a zip file, Unzip the file to a folder.

4. Go to that folder, you will see the following screen shot

5. Type command:

Step 1:

Python
>>> import nltk
>>> nltk.download()   **#select all the packages to install**
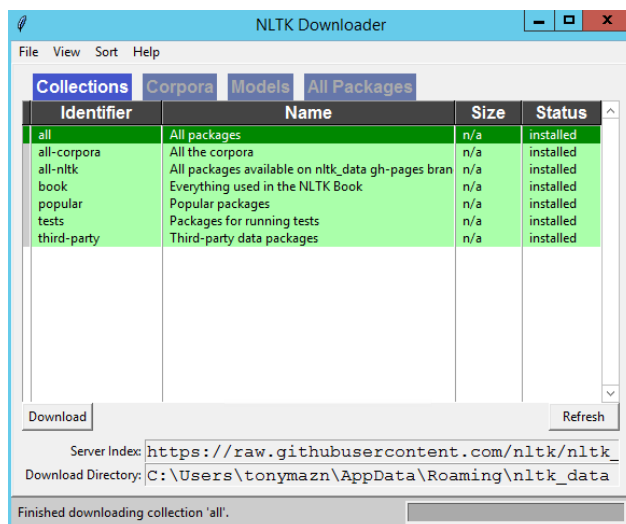
Step 2:

Python setup.py install

```
Administrator: Command Prompt

C:\Users\Tony\Downloads\cs410-master\cs410-master>python setup.py install
```

6. It will start to install system and all the dependences.

7. Done.

Run the software

1. Once the software dependences are installed, it is ready to run the software.

2. Go to the folder you unzip:

cs410-master			
Name	Date modified	Type	Size
core	2018-12-10 6:56 AM	File folder	
tests	2018-12-10 6:56 AM	File folder	
web	2018-12-10 6:56 AM	File folder	
.gitignore	2018-12-10 6:56 AM	GITIGNORE File	2 KB
__init__	2018-12-10 6:56 AM	Python File	1 KB
LICENSE	2018-12-10 6:56 AM	File	12 KB
README.md	2018-12-10 6:56 AM	MD File	4 KB
requirements	2018-12-10 6:56 AM	Text Document	1 KB
setup.cfg	2018-12-10 6:56 AM	CFG File	1 KB
setup	2018-12-10 6:56 AM	Python File	1 KB

3. Run the following command,

```
python -m web.webserver
```

4. The Flack web application 'webserver' will start

```
Administrator: Command Prompt - python  -m web.webserver

C:\Users\tony.z.ma\Downloads\cs410-master\cs410-master>python -m web.webserver
 * Serving Flask app "webserver" (lazy loading)
 * Environment: production
   WARNING: Do not use the development server in a production environment.
   Use a production WSGI server instead.
 * Debug mode: off
```

5. Done.

How to use

1. Open browser(IE ,Chrome or others)

2. Type the URL: http://localhost:5000, you will see the following screen.

3. The left hand side Text Area with the "Enter plain text here …" is the input, and right hand side Text Area with the "Summary here…" is the output.

4. The software supports 4 algorithms, such as Lex Rank, Luhn, LSA, and Text Rank.

5. You have option to change the number of summary sentences return, the default is 4 sentences.

6. Once you put the original text into the input, select the Algorithm and Number of Summary Sentences, click the Submit, the result will display on Summary text box.

Text Summarization Tool

A burly kangaroo whose buff physique shot him to internet fame has died at the age of 12.

"We have lost our beautiful boy, Roger," Chris Barnes, owner of the Kangaroo Sanctuary in Australia, announced on Saturday on Facebook.
Roger, who was 6 foot 7 inches and weighed nearly 200 pounds in his prime, was rescued by Barnes as a joey after his mother was killed on a highway.
In a video tribute to the marsupial, Barnes said he was inspired to set up the 188-acre sanctuary in Alice Springs to house the famous kangaroo and his growing harem of wives.
"I built it so they had a place to live," he said. Roger was the sanctuary's alpha male for many years, Barnes added. "He grew up to be a kangaroo that people from all over the world have grown to love as much as we love him too."
Roger's death led to an outpouring of grief on social media. Australian singer Natalie Imbruglia called him "such a proud strong boy" in an Instagram post, while the Australian government's tourism agency described him as a "true icon."

In a video tribute to the marsupial, Barnes said he was inspired to set up the 188-acre sanctuary in Alice Springs to house the famous kangaroo and his growing harem of wives. "He grew up to be a kangaroo that people from all over the world have grown to love as much as we love him too."

Algorithm: Text Rank ▾ Number of Summary Sentences: 2
Submit

7. Done.

Question

If you have any question or feedback, please send to zm11@illinois.edu

REFERENCES

[i] H.P.Luhn   The Automatic Creation of Literature Abstracts, 1958

[ii] Mihalcea, R. and Tarau, TextRank: Bringing order into text, 2004

[iii] Erkan, G. and Radev, D.R. Lexrank: Graph-based lexical centrality as salience in text summariazation, 2004