TEXT SUMMARIZER

Project Authors - VAIBHAV SHARMA

ABSTRACT

- Text summarization is the process of making a synopsis from a given text document while keeping the important information and meaning of it.

- Automatic summarization has become an essential method for accurately locating significant information in vast amounts of text in a short amount of time and with minimal effort.

- In this project, we propose to implement a web application that can summarize a text or a Wikipedia link. We have additionally been given an opportunity to compare different methods of summarization.

INTRODUCTION

- Text summarization is one of the Natural Language Processing (NLP) applications that will undoubtedly have a significant influence on our lives.
- With the rise of digital media and ever-increasing publication, who has the time to read complete news items, documents, books to determine whether they are beneficial or not?
- Automatic Text Summarization is among the most complex and intriguing topics in Natural Language Processing (NLP).
- It is the way of forming a brief and coherent summary of writing from a variety of text sources, including books, news stories, blog posts, research papers, emails, and tweets.
- The advent of vast volumes of textual data is driving up demand for automatic summarization technologies.

PROBLEM STATEMENT

- The tremendous abundance of material available on the internet has produced an odd paradox: people are immersed in information, yet they are yearning for wisdom.

- It is tough to keep up with the internet's daily production of billions of articles. Is there a method to absorb information more effectively in this case without increasing reading time?

- We are proposing for the above problem a Text Summarizer web app using NLP and NLTK libraries.

PRESENT SOLUTIONS

- **Inshorts**
  Inshorts is a news app that selects latest and best news from multiple national and international sources and summarises them to present in a short and crisp 60 words or less format, personalized in both, English or Hindi.

- **Summarizer Bot**
  AI and blockchain-powered tool which allows users to know more by reading less with summarization of long texts. It includes Wikipedia articles, white papers, web pages, and even audio and images.

- **Resoomer**
  This tool generates accurate summaries of texts, allowing you to filter through documents by key topics, identify important facts and ideas, and interpret articles faster.

METHODS

- **Gensim** is an open source library in python used in unsupervised topic modelling and natural language processing. It is designed to extract semantic topics from documents. Summarizing is based on ranks of text sentences using a variation of the TextRank algorithm.

- **NLTK** is an essential library supports tasks such as classification, stemming, tagging, parsing, semantic reasoning, and tokenization in Python. It's basically your main tool for natural language processing and machine learning.

- **spaCy** is a free, open-source library for advanced Natural Language Processing (NLP) in Python. It is designed specifically for production use. It can be used to build information extraction or natural language understanding systems, or to pre-process text for deep learning.

- **Sumy** is an open-sourced Python library to extract summaries from HTML pages and text files. The package also contains an evaluation framework for text summaries. Sumy offers several algorithms and methods for text summarization such as LexRank and TextRank.

INDUSTRY USE CASES

- **Media Monitoring**
  The issue of overload of information and content shock can be solved by automatic summarization as presents it can condense the continuous torrent of information into smaller pieces of information.

- **Search Marketing and SEO**
  Multi-document summarization can be a powerful tool to quickly analyze dozens of search results, understand shared themes and skim the most important points.

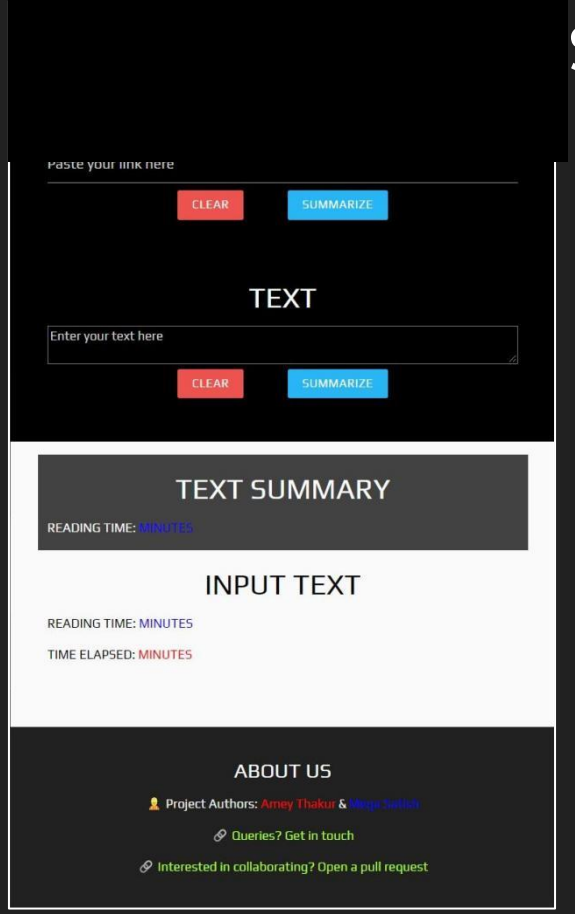
- **Internal Document Workflow**
  Summarization can enable analysts to quickly understand everything the company has already done in a given subject, and quickly assemble reports that incorporate different points of view.

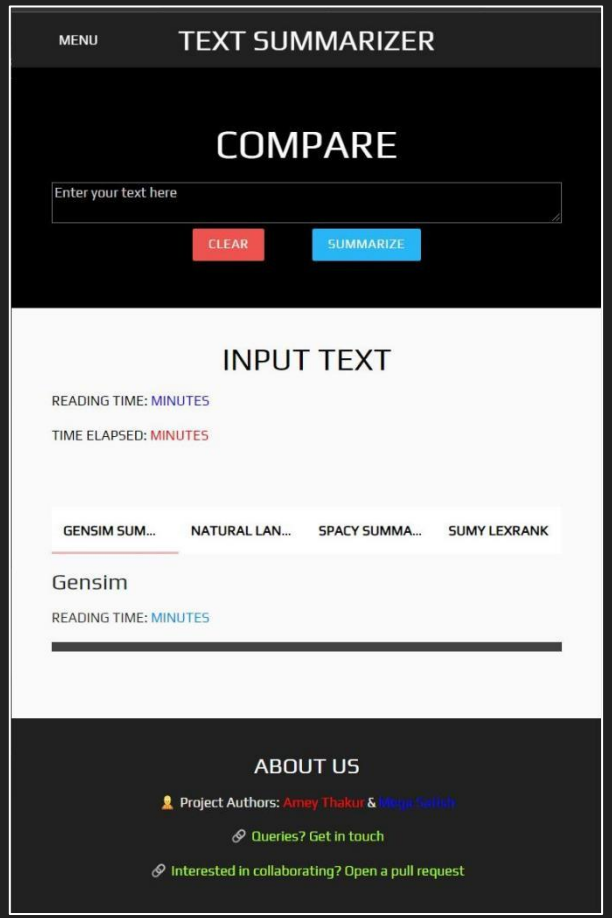
- **Medical Cases**
  Summarization can be a crucial component in the tele-health supply chain when it comes to analyzing medical cases and routing these to the appropriate health professional.

- **Books and Literature**
  Summarization can help consumers quickly understand what a book is about as part of their buying process.

SULT

Applicati





TEXT SUMMARY

READING TIME: 0.92 MINUTES

A flower, sometimes known as a bloom or blossom, is the reproductive structure found in flowering plants (plants of the division Magnoliophyta, also called angiosperms). Self-pollination happens when the pollen from the anther is deposited on the stigma of the same flower, or another flower on the same plant. Self-pollination happens in flowers where the stamen and carpel mature at the same time, and are positioned so that the pollen can land on the flower's stigma. Cross-pollination is the transfer of pollen from the anther of one flower to the stigma of another flower on a different individual of the same species. The two types of pollination are: self-pollination and cross-pollination. The biological function of a flower is to facilitate reproduction, usually by providing a mechanism for the union of sperm with eggs. Many flowers have evolved to be attractive to animals, so as to cause them to be vectors for the transfer of pollen.

INPUT TEXT

READING TIME: 1.665 MINUTES

A flower, sometimes known as a bloom or blossom, is the reproductive structure found in flowering plants (plants of the division Magnoliophyta, also called angiosperms). The biological function of a flower is to facilitate reproduction, usually by providing a mechanism for the union of sperm with eggs. Flowers may facilitate outcrossing (fusion of sperm and eggs from different individuals in a population) resulting from cross-pollination or allow selfing (fusion of sperm and egg from the same flower) when self-pollination occurs. The two types of pollination are: self-pollination and cross-pollination. Self-pollination happens when the pollen from the anther is deposited on the stigma of the same flower, or another flower on the same plant. Cross-pollination is the transfer of pollen from the anther of one flower to the stigma of another flower on a different individual of the same species. Self-pollination happens in flowers where the stamen and carpel mature at the same time, and are positioned so that the pollen can land on the flower's stigma. This pollination does not require an investment from the plant to provide nectar and pollen as food for pollinators. Some flowers produce diaspores without fertilization (parthenocarpy). Flowers contain sporangia and are the site where gametophytes develop. Many flowers have evolved to be attractive to animals, so as to cause them to be vectors for the transfer of pollen. After fertilization, the ovary of the flower develops into fruit containing seeds. In addition to facilitating the reproduction of flowering plants, flowers have long been admired and used by humans to bring beauty to their environment, and also as objects of romance, ritual, esotericism, witchcraft, religion, medicine, and as a source of food.

TIME ELAPSED: 0.22255754470825195 MINUTES

INPUT TEXT

READING TIME: 1.105 MINUTES

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TIME ELAPSED: 0.21028566360473633 MINUTES

GENSIM SUMMARIZER | NATURAL LANGUAGE TOOLKIT | SPACY SUMMARIZER | SUMY LEXRANK

Gensim

READING TIME: 0.14 MINUTES

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NLTK

READING TIME: 0.895 MINUTES

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GENSIM SUMMARIZER | NATURAL LANGUAGE TOOLKIT | SPACY SUMMARIZER | SUMY LEXRANK

Sumy

READING TIME: 0.51 MINUTES

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THANK YOU

Project Title - **Text Summarizer**

Project Authors - **Vaibhav Sharma**