



# AI Text Summarizer

Discover the power of AI text summarization. Understand the importance of automating text processing and learn how this cutting-edge technology works.

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# What is AI Text Summarizer?

## Definition

AI text summarizer is an advanced technology capable of reducing large volumes of text into shorter summaries without losing key information.

## The need for summarization

Given the ever-growing volume of information, text summarization is essential to quickly gather the main points of an article, report or research paper.

## The role of AI

AI-driven text summarization technology intelligently identifies and extracts essential information from the original text, turning it into a concise and coherent summary.

# Algorithm

## 1. Imports and Setup:

- The code begins by importing necessary libraries, such as Flask for creating the API endpoints, NLTK for natural language processing tasks like tokenization and frequency distribution, and ``heapq`` for getting the top sentences.
- It initializes a Flask app and enables CORS (Cross-Origin Resource Sharing) to allow cross-origin requests.

## 2. Routes:

There are two routes defined:

- ``/`` simply returns 'Hello, World!' when accessed.
- ``/get_summary`` is a POST route that expects JSON data with a 'text' key containing the input text for summarization.

## 3. Tokenization and Preprocessing:

- The ``get_summary`` function retrieves the input text from the POST request's JSON payload.
- It tokenizes the text into sentences using ``sent_tokenize`` from NLTK.
- Tokenizes the words and removes English stopwords (common words that don't carry significant meaning) using NLTK's ``stopwords`` corpus.



#### 4. Calculating Word Frequencies:

- The code calculates the frequency distribution of the words in the text after filtering out stopwords.

#### 5. Scoring Sentences:

- For each sentence in the input text, it calculates a score based on the sum of frequencies of the words present in that sentence.

#### 6. Generating Summary:

- Selects the top 5 sentences with the highest scores using ``heapq.nlargest``.
- Joins these sentences together to create the summary.

#### 7. Calculating Accuracy:

- The ``calculate_accuracy`` function takes the original text and the generated summary.
- It calculates the accuracy of the summary by comparing the number of shared words between the original text and the summary.

#### 8. Running the App:

- Finally, the app runs in debug mode.

# Benefits of AI Text Summarizer



## **Time-saving**

AI text summarizer saves readers and researchers significant amounts of time by quickly providing condensed information.



## **Increased accessibility of information**

AI text summarizer allows people with disabilities, those with low literacy levels and others to access and understand written information quicker and easier.



## **Improved productivity and efficiency**

AI text summarizer helps manage information overload, streamlines research procedures and helps businesses make informed decisions about market trends.

# Use Cases and Applications

## Academic Research and Literature Review

AI text summarizer is useful for students and researchers who are required to read and critically analyze a large amount of textual data.

1

## News and Article Summarization

AI text summarizer is widely used by media outlets to summarize news stories and make it more appealing to readers.

2

3

## Business and Market Intelligence

AI text summarizer is highly effective in helping businesses and investors keep up to date with market trends and developments, enabling them to stay ahead of the curve.

# Future Prospects and Advancements

## Emerging Trends

New trends in AI text summarization include utilizing deep learning algorithms, integrating knowledge graphs, and using multi-modal approaches to enhance the sophistication of the technology.

## Potential Improvements

Future developments in AI text summarization may focus on improving interpretability, tackling the challenge of summarizing various forms of media types such as images and videos, and developing a more customizable and adaptable system.

## Impact on Industries

The development of AI text summarization is set to revolutionize various industries, such as journalism, education, finance, and healthcare, making it easier for individuals and businesses to access and analyze essential information quickly and efficiently.



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### Text Summarizer

The Centre has asked all states and Union territories to immediately review public health and hospital preparedness in the wake of a rise in respiratory illness in children in China. Though the risk of the spread of a similar outbreak in the country "is low", officials said the government has decided to review preparedness against respiratory illness as "a matter of abundant caution". The Centre has asked states & UTs to review the availability of manpower, hospital beds, drugs and vaccines for influenza and medical oxygen to deal with a potential surge in respiratory illness. They have also been advised to review the availability of personal protective equipment, testing kits and reagents, functionality of oxygen plants and ventilators, and infection control practices in health facilities. The first outbreak of Covid-19 was also reported from China in December 2019. Later, the disease engulfed most of the world, including India, and caused the loss of lakhs of lives globally. Many public health specialists accused China of trying to suppress or delay sharing of information about the outbreak which led to confusion and delayed response and allowed the disease to spread globally. This could also be a reason that this time around countries like India aren't taking any chances, public health experts say but caution against panicking. 'It is having much impact on children...': Expert on H9N2 outbreak in China "People need to realise that it's very common to have infectious diseases in isolated spots. Cases of swine flu or influenza or respiratory syncytial virus are commonly seen across the globe in small communities. So rather than going into the mystery, we need to be very clear scientifically before panicking about it," said Dr Rahul Pandit, chairperson of the critical care department at Sir HN Reliance Foundation Hospital, Mumbai. The main effect of Covid-19 was seen on the lungs. Because the current wave of illness being reported from China is also causing respiratory symptoms mainly, all states and UTs have been advised to implement 'Operational Guidelines for Revised Surveillance Strategy in the context of Covid-19'.

Summarize

Clear

History



## Summary:

Because the current wave of illness being reported from China is also causing respiratory symptoms mainly, all states and UTs have been advised to implement 'Operational Guidelines for Revised Surveillance Strategy in the context of Covid-19', shared earlier this year, which provides for integrated surveillance of respiratory pathogens presenting as cases of influenza like illness (ILI) and severe acute respiratory illness (SARI). The Centre has asked all states and Union territories to immediately review public health and hospital preparedness in the wake of a rise in respiratory illness in children in China. States have also been asked to send nasal and throat swab samples of patients with SARI, particularly of children and adolescents, to the virus research and diagnostic laboratories (VRDLs) in the states for testing for respiratory pathogens, said an official. The Centre has asked states & UTs to review the availability of manpower, hospital beds, drugs and vaccines for influenza and medical oxygen to deal with a potential surge in respiratory illness. Some reports suggest the surge in respiratory illness in China is being caused by the co-existence of multiple viral infections, for example influenza, respiratory syncytial virus and SARS-CoV2.

## Accuracy:

39.86%

# Conclusion

## Recap of key points

AI text summarizer is an emerging technology that uses advanced algorithms to quickly summarize large amounts of text into concise and coherent summaries. It offers numerous benefits, including improved productivity, accessibility, and time-saving.

## Importance of AI Text Summarizer

AI text summarizer is a game-changer as it helps people better manage information overload and make informed decisions faster. As AI technology continues to evolve, the potential for further advancements and new applications is significant.

**Thank You**