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NLP Project: Summary Writer

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Introduction:

- This project aims to develop a text summarization tool using natural language processing (NLP) techniques.
- The goal is to create an application that can analyze text and generate accurate summaries.
- It's help users quickly grasp the key points and ideas without having to read the full text.



Task Definition and Algorithm

Text Preprocessing

Clean and preprocess the input text, including tokenization, stop word removal, and stemming/lemmatization.

1

2

Feature Extraction

Analyze the text to identify important features like topic, sentiment, named entities, and rhetorical structure.

Summary Generation

Using the extracted features, generate a concise summary that captures the key points and main ideas.

3

Objective of the Project

1 Automate Summarization

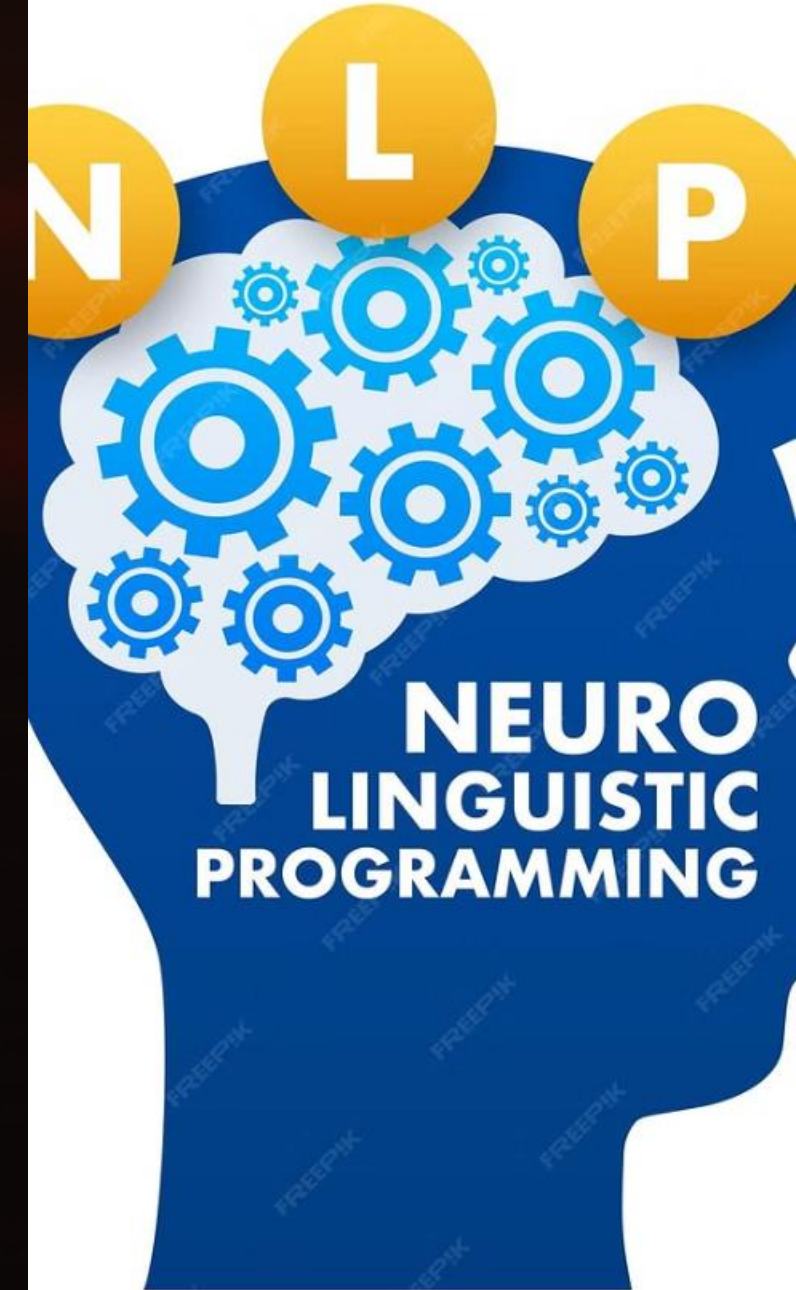
Create an algorithm that can automatically generate summaries from lengthy text content.

2 Improve Readability

Provide users with a quick, easy-to-digest overview of key information.

3 Time Saving

Allows users to quickly grasp the key points without reading the full text.



Related work

Extractive Summarization Summarization

Identifies the most important sentences in the text and extracts them to create the summary.

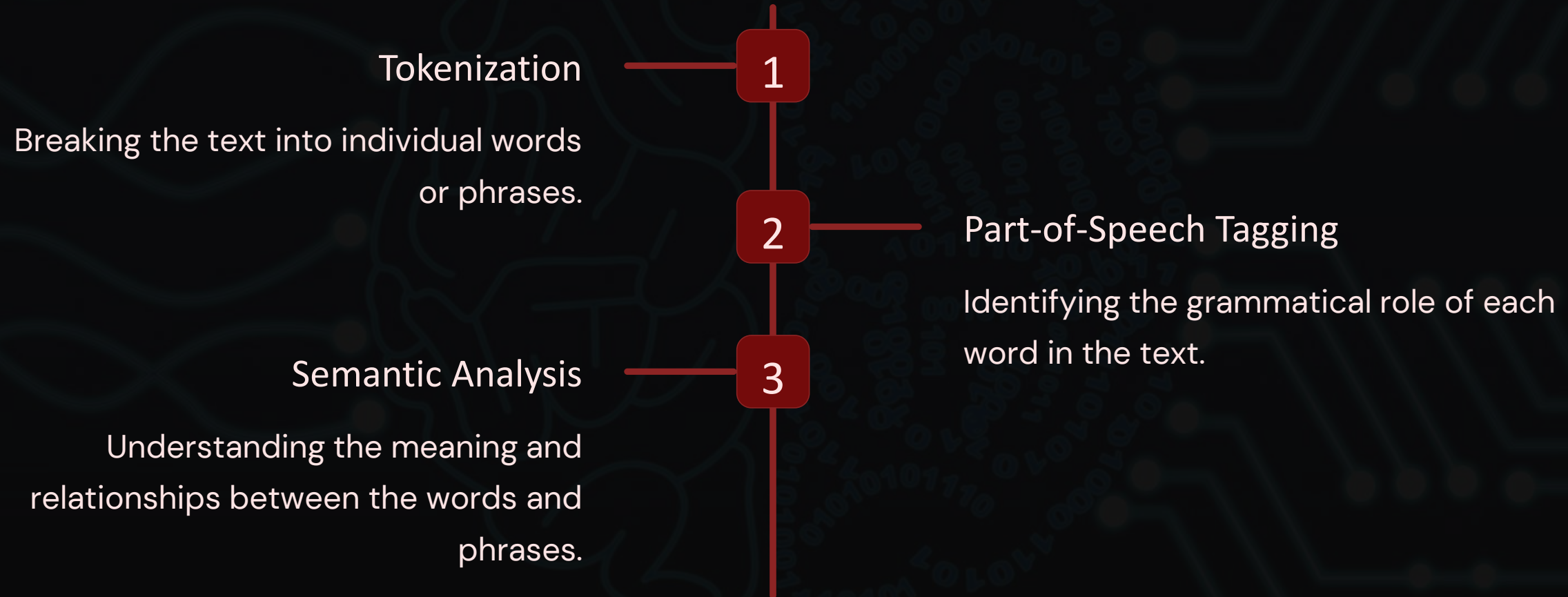
Abstractive Summarization

Generates new sentences that capture the essence of the text, rather than just extracting existing ones.

Hybrid Approaches

Combines extractive and abstractive methods to leverage the strengths of both techniques.

Natural Language Processing (NLP)



Importance of Text Summarization



Time-Saving

Allows users to quickly grasp the key points without reading the full text.



Information Overload

Helps manage the growing amount of text-based content available online and in digital media.



Informed Decisions

Provides concise summaries to support better decision-making and analysis.



Applications of Text Summarization

1

News Aggregation

Summarize the key points of news articles to help users stay informed.

2

Academic Research

Provide concise summaries of scientific papers and journal articles.

3

Legal Documents

Summarize lengthy contracts, legal briefs, and case files for quick reference.

Text Summarization Project

1

Summarization Impact

Improves information accessibility and productivity.

2

Applicability

Versatile application for diverse text types.

3

Future Development

Potential for continued advancement in NLP technology.

Challenges and Limitations

1

Maintaining Accuracy

Ensuring the summary accurately reflects the key ideas and intent of the original text.

2

Handling Complex Language

Dealing with nuanced language, ambiguity, and contextual understanding.

3

Preserving Tone and Style

Retaining the original author's voice and writing style in the summary.

Outcome of the Project

Concise Summaries

The tool will produce short, coherent summaries that capture the main points of the original text.

Customizable Settings

Users can adjust parameters to control the length and level of detail in the summaries.

Versatile Application

The tool can be used for various types of text, from news articles to research papers.

Improved Productivity

By quickly understanding key information, users can save time and work more efficiently.



Conclusion:

Enhances accessibility and productivity with impactful summarization.

Improves information accessibility and productivity, leading to better decision-making for a wide range of users.