

Project Title:

Generative AI Text Summarization Using IBM Watsonx

Presented By: [Junaïd Umar]




PROBLEM STATEMENT



This project addresses the challenge of information overload. To overcome the inefficiency of reading lengthy texts, our goal is to provide a Generative AI application that automatically generates concise summaries, helping users quickly understand key points and save time.




Project Description



This project demonstrates a powerful text summarization tool built on the IBM Watsonx.ai platform.

The application allows a user to input any lengthy piece of text. It then communicates with a state-of-the-art Large Language Model (LLM) hosted on Watsonx. Through a technique called prompt engineering, we instruct the AI to read, understand, and distill the core concepts of the input text.

Finally, the model generates a brand new, concise summary that accurately reflects the original document's key messages. The process is fast, automated, and designed to produce high-quality, human-like text.



WHO ARE THE END USERS?



This tool is for anyone who needs to process large volumes of text quickly and efficiently.

- Students & Researchers: To quickly screen academic papers and articles for relevance, speeding up literature reviews.
- Business Analysts & Executives: To summarize dense market reports, financial documents, and long email chains to make informed decisions faster.
- Journalists & Content Creators: To condense press releases, interviews, and source materials into key takeaways for their stories or content.



Technology Used

Our summarizer is powered by a modern, cloud-based technology stack.

- Core AI Platform: IBM Watsonx.ai, a next-generation enterprise studio for building, managing, and deploying AI models.
- Foundation Model: Google Flan-T5-XL-3B and llama-3-3-70b-instruct accessed via Watsonx. These are pre-trained models capable of understanding and generating natural language.

RESULTS

To achieve high accuracy, we provided the model with five examples of topics and their desired summaries

IBM watsonx

Upgrade

Junaid Umar

London

JU

Projects / Text Summarization / Prompt Lab

AI guardrails on

Unsaved

New prompt +

ChatStructuredFreeform

AI

Model: flan-t5-xl-3b

{#}

TXT

</>

X

Set up

Instruction (optional)

You are a summarization assistant. Summarize the following topic into a short paragraph, avoiding unnecessary ...

Examples (optional)

Input:	Output:
Topic:	Summary:
Artificial Intelligence (AI) is a branch of computer science that focuses on creating systems capable of performing tasks that normally require human ...	AI enables machines to mimic human intelligence and is applied in fields like healthcare, security, and automation.
Cybersecurity is the practice of protecting systems, networks, and programs from digital attacks. These attacks often aim to access, change, or destroy ...	Cybersecurity defends digital systems against attacks through tools like firewalls, encryption, and user awareness.
Climate change refers to long-term shifts in global temperatures and weather patterns, primarily driven by human activities such as burning fossil fuels, ...	Climate change is caused by human activities and leads to global environmental and social challenges, requiring urgent action.
Blockchain is a decentralized digital ledger technology that records transactions securely across multiple computers. Unlike traditional centralized systems, ...	Blockchain is a secure, decentralized ledger used for cryptocurrencies, supply chains, and smart contracts.
User Experience (UX) Design is the process of enhancing customer satisfaction by improving the usability, accessibility, and pleasure of interaction wi...	UX Design improves user satisfaction by making products intuitive, accessible, and enjoyable to use.

Add example +

Try

Clear output

Generate

Model parameters

Decoding

Greedy ☒ Sampling

Repetition penalty

1 2 1.07

Stopping criteria

Stop sequences

Min tokens

25

Max tokens

200

Enter up to 6 sequences to stop output after the minimum number of tokens is reached.

Reset to default

RESULTS

The model successfully generated high-quality summaries for new, unseen topics. Here is a specific example from our tests.

Demo Link: <https://github.com/Umaralp/Text-Summarization-Using-IBM-Watsonx>

Try ^

Test your prompt ⓘ

Input:	Output:	AI
The Internet of Things (IoT) is a system of interrelated devices connected to the internet, capable of collecting and exchanging data. These devices range...	The Internet of Things is a system of interrelated devices connected to the internet, capable of collecting and exchanging data.	⌵ ⓘ
Cloud computing is the delivery of computing services such as storage, servers, databases, networking, and software over the internet. It eliminates the need for companies to invest in expensive hardware and maintenance, allowing them to scale resources based on demand. Major providers like Amazon Web Services (AWS), Microsoft Azure, and Google Cloud offer a wide range of solutions for businesses of all sizes. While cloud computing provides flexibility and cost-efficiency, it also introduces challenges related to da... security, compliance, and downtime risks.	Cloud computing is the delivery of computing services over the internet. It eliminates the need for companies to invest in expensive hardware and maintenance.	⌵ ⓘ

New test +

Time: 1.5 seconds

Clear output ⓘ

Generate →

Stop sequences

Min tokens

25

Max tokens

200

Enter up to 6 sequences to stop output after the minimum number of tokens is reached.

Reset to default ↻

Thank you