DLP Project

Text Summarizer

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Objective

The objective of this project is to develop a text summarization model using transformer-based architecture. The goal is to create a system capable of generating concise summaries of large input text documents, enabling efficient information extraction and comprehension.

Problem Statement

In today's world, reading lengthy texts can be time-consuming and overwhelming. To tackle this issue, we aim to develop a text summarization model using transformer-based architecture. The goal is to create a tool that efficiently condenses large texts into concise summaries, making information extraction quicker and easier.

Methodology

The methodology involves several key steps. First, we preprocess the input text data, including tokenization. Next, we build a custom transformer model, and train it on a large corpus of text data using supervised learning techniques. We utilize techniques such as attention mechanisms and self-attention to capture important information and context from the input text. The model is trained using a combination of loss functions and optimization algorithms to minimize summarization errors and maximize performance.

Results

The training process encountered significant challenges and ultimately failed to complete due to excessive time consumption.
Initially, we conducted training for 10 epochs on a very limited dataset, using only the first 1000 rows. Despite completing the epochs, the results yielded were unsatisfactory, characterized by poor predictions.
In an attempt to improve performance, we tried to train the model on a larger dataset,using the first 10000 rows. However, the process became stuck, halting further progress.
These setbacks underscore the complexity and resource-intensive nature of training transformer-based models for text summarization.