GenAI ~ HandsOn Unit1(Part 2)

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Section: F

Problem Statement

Project #6: TL;DR for News Articles

Goal: Paste a long news article text and generate a concise summary highlighting the key points.

Tech Used: `pipeline('summarization')` , `sshleifer/distilbart-cnn-12-6`

Abstract

With the rapid growth of digital media, users are often overwhelmed by lengthy news articles and reports. This project implements a **TL;DR News Article Summarizer** using a pretrained transformer-based summarization model. By leveraging Hugging Face's summarization pipeline, the system generates concise and coherent summaries from long textual inputs while preserving essential information. The project demonstrates the effectiveness of sequence-to-sequence transformer models for abstractive text summarization.

Short Documentation

What I Understood

Text summarization is an important Natural Language Processing task that aims to reduce long text documents into shorter versions while retaining the core meaning. Transformer-based encoder–decoder models, such as BART are well suited for this task as they can understand context and generate fluent

summaries. Hugging Face pipelines provide an easy-to-use interface for applying such pretrained models without the need for training from scratch.

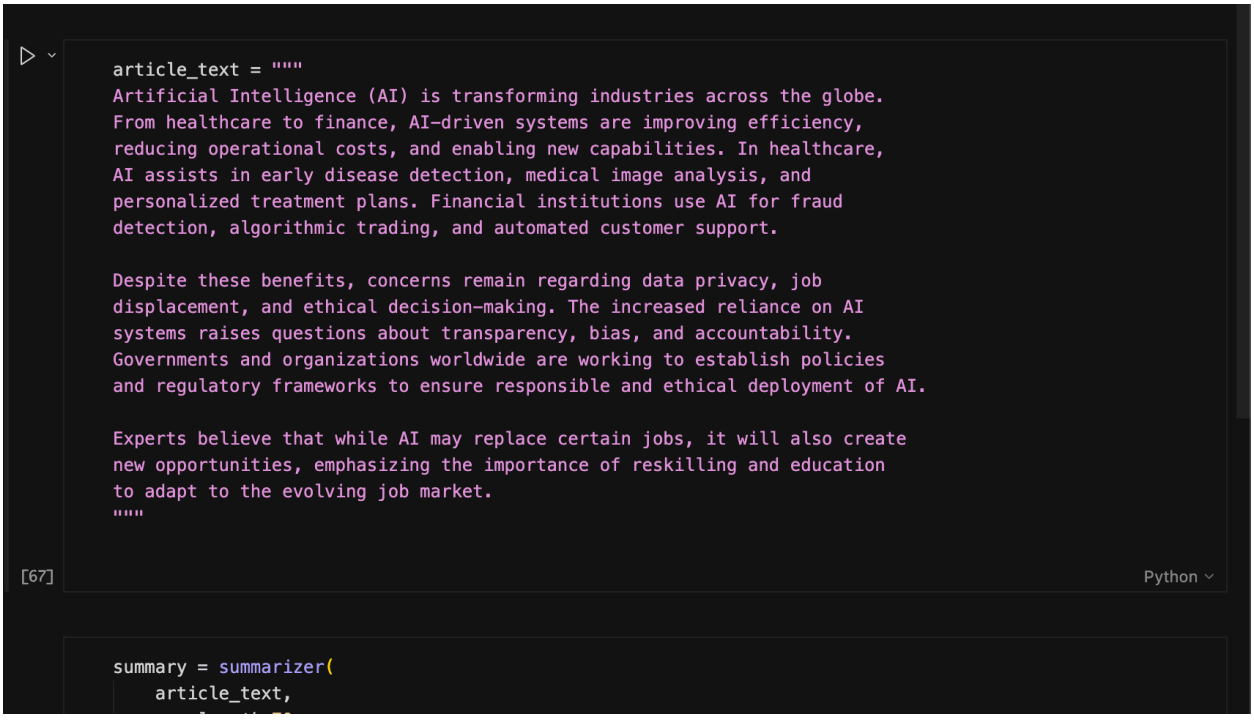
What I Built

I built a **TL;DR News Article Summarizer** that:

- Accepts a long news article as input
- Uses a pretrained **DistilBART CNN** summarization model
- Generates a short, meaningful summary
- Allows control over summary length using `min_length` and `max_length` parameters

The system runs entirely in Google Colab and demonstrates how pretrained transformer models can be used for real-world text summarization tasks.

Input (News Article – Excerpt)



```
article_text = """
Artificial Intelligence (AI) is transforming industries across the globe.
From healthcare to finance, AI-driven systems are improving efficiency,
reducing operational costs, and enabling new capabilities. In healthcare,
AI assists in early disease detection, medical image analysis, and
personalized treatment plans. Financial institutions use AI for fraud
detection, algorithmic trading, and automated customer support.

Despite these benefits, concerns remain regarding data privacy, job
displacement, and ethical decision-making. The increased reliance on AI
systems raises questions about transparency, bias, and accountability.
Governments and organizations worldwide are working to establish policies
and regulatory frameworks to ensure responsible and ethical deployment of AI.

Experts believe that while AI may replace certain jobs, it will also create
new opportunities, emphasizing the importance of reskilling and education
to adapt to the evolving job market.
"""
```

[67] Python

```
summary = summarizer(
    article_text,
```

Generated TL;DR Summary

```python
summary = summarizer(
    article_text,
    max_length=70,
    min_length=40,
    do_sample=False
)

print(summary[0]["summary_text"])
```

[71] Python

```
Artificial Intelligence (AI) is transforming industries across the globe . From healthcare to finance, AI-dr
```

```
Artificial Intelligence (AI) is transforming industries across the globe . From healthcare to finance,
AI-driven systems are improving efficiency, reducing operational costs, and enabling new
capabilities . Concerns remain regarding data privacy, job displacements, and ethical decision-making .
```

markdown

```python
print("Compression ratio:",
      round(len(article_text.split()) / len(summary[0]['summary_text'].split()), 2))
```

[72] Python

```
Compression ratio: 3.37
```