Abstractive Podcast Summarization

Project Phase I Presentation : Zeroth Review

Guided By : Ms. Aswathy James

Prepared By :
George Joyal Vincent , SJC20AD032
Gouri S Govind , SJC20AD034
Judin Augustin , SJC20AD045
Noyal Joseph , SJC20AD049

Outline

Introduction

- A podcast is an episodic series of audio files that a user can download to a personal device to listen to at a time of their choosing.
- Summarizing podcasts is beneficial for both content providers and consumers.
- Challenges arise from speech disfluencies in the spoken content.
- Recognition errors in transcripts of spoken language add to the summarization challenge.
- A summarization system that uses diarization can identify the different speakers in a podcast and generate a summary that is specific to each speaker.

Motivation

- Podcasts have witnessed a remarkable surge in popularity, with over 155 million listeners each week.
- This popularity has led to a growing demand for podcast summaries. Listeners want a quick way to decide whether a podcast is worth their time.
- Podcasts often vary in length, and not everyone has the time to listen to an entire episode. A summarizer would save time for busy individuals by providing a quick overview of the podcast's key points.
- This research could revolutionize podcast summarization by providing users with information consistency checks against original audio clips.

Literature Survey

Sl No.	Author[s]	Title	Overview
1	Kaiqiang Song, Chen Li, Xiaoyang Wang, Dong Yu, and Fei Liu.	” Towards Abstractive Grounded Summarization of Podcast Transcripts.”	Innovative abstractive summarization method that addresses challenges like factual inconsistencies, speech disfluencies, and recognition errors in transcripts.
2	Shota Horiguchi, Shinji Watanabe, Paola García, Yuki Takashima and Yohei Kawaguchi.	” Online Neural Diarization of Unlimited Numbers of Speakers Using Global and Local Attractors”	A method to perform offline and online speaker diarization for an unlimited number of speakers is described in this paper.

Problem Statement

- In today's information-rich podcast landscape, the absence of concise and accessible podcast summaries limits effective content consumption, so creating an efficient summarization model that closely emulates human summarization methods by selecting essential sentences and producing concise yet accurate summaries.

Objective

1. To develop an abstractive podcast Summarization model that closely simulates human summarization techniques.
2. To enhance the abstractiveness of the generated summaries compared to existing models.
3. To integrate the developed model into a interface, ensuring easy accessibility and usability for users.

Methodology

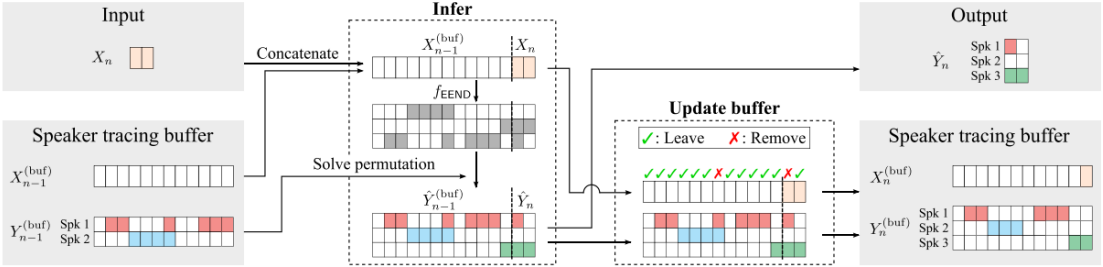
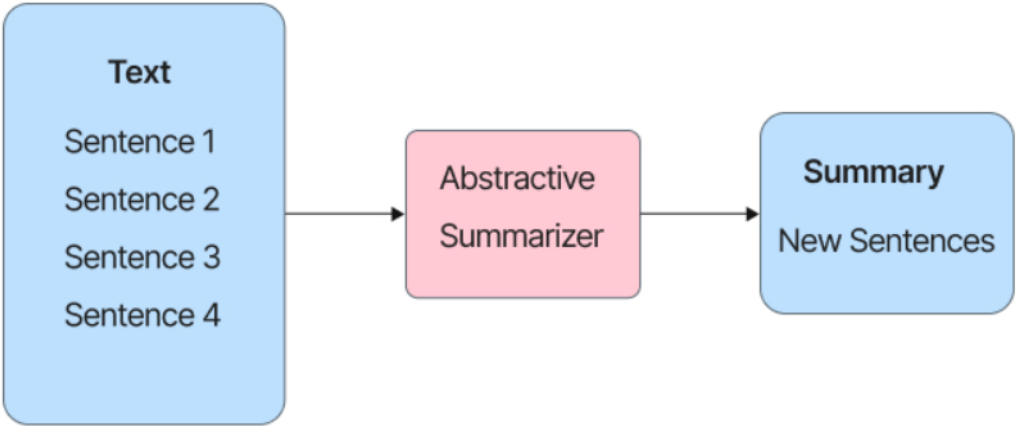


Fig. 1. Online diarization using speaker-tracing buffer proposed in [25], [26].

Methodology



Data Description

- **Podcast Episodes :** The dataset consists of over 100,000 individual podcast episodes, each associated with specific themes and subject matter.
- **Audio Files :**While audio files are available for the episodes, this study does not utilize the audio data in its summarization process.
- **Transcripts : If the transcripts are already labelled, we don't have to use dairization. Instead we can directly summarize it.**

Conclusion

- The proposed summarization model bridges the gap between human summarization techniques and automated systems, offering a more accurate and efficient approach.
- The existing challenges in podcast summarization, including inconsistencies and recognition errors, necessitate innovative solutions.
- By grounding summary segments within specific regions of the transcript, this approach promises to enhance summarization quality.

References

- Chenguang Zhu, Yang Liu, Jie Mei, and Michael Zeng. 2021. Mediasum: A large-scale media interview dataset for dialogue summarization.
- Kaiqiang Song, Chen Li, Xiaoyang Wang, Dong Yu, and Fei Liu. 2020. Automatic summarization of open-domain podcast episodes. In Proceedings of the 29th Text REtrieval Conference (TREC).
- Luyang Huang, Shuyang Cao, Nikolaus Parulian, Heng Ji, and Lu Wang. 2021. Efficient attentions for long document summarization.

Thank You!

Questions?