

Leveraging BART-Based Models for Automatic Meeting Minuting

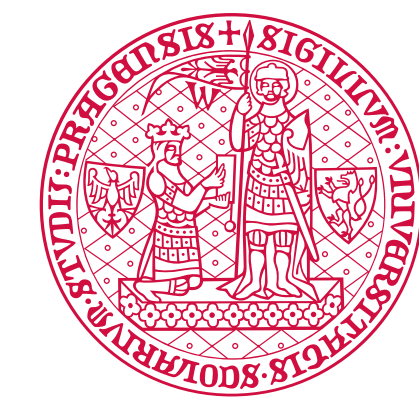
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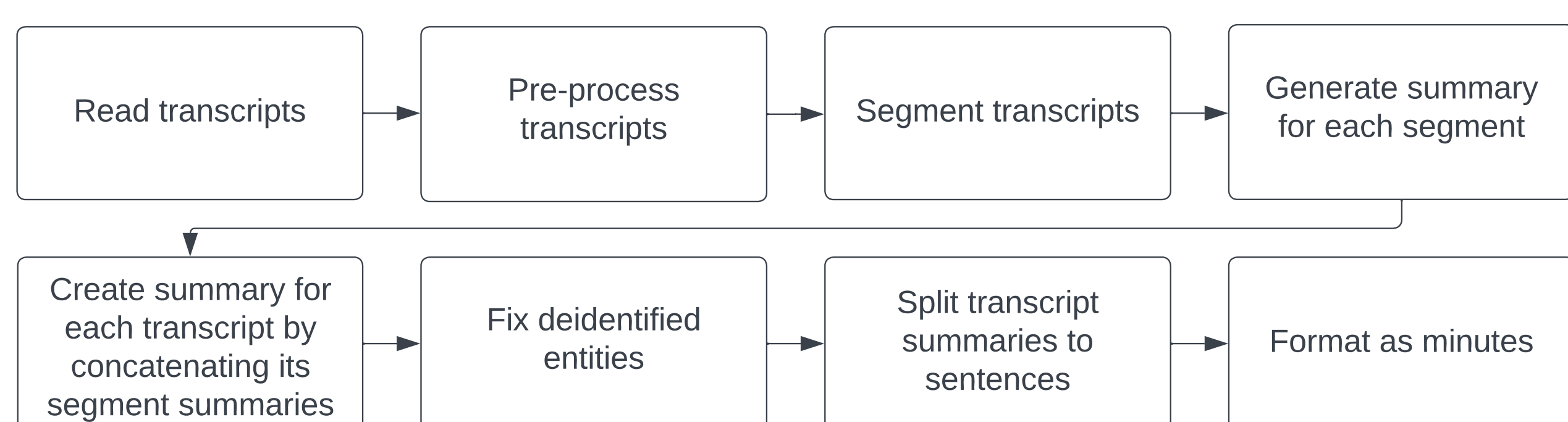


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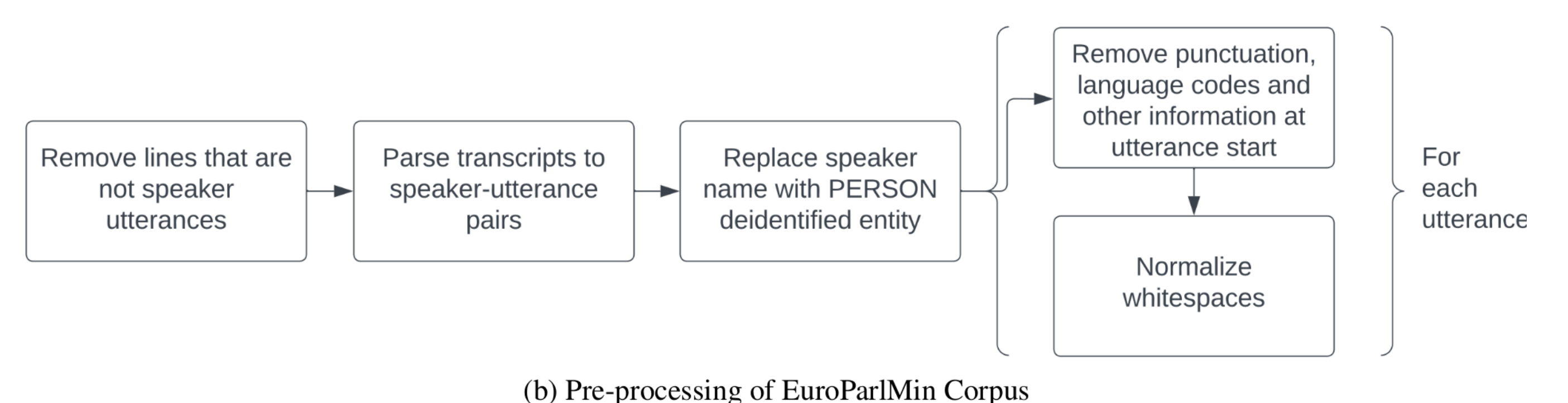
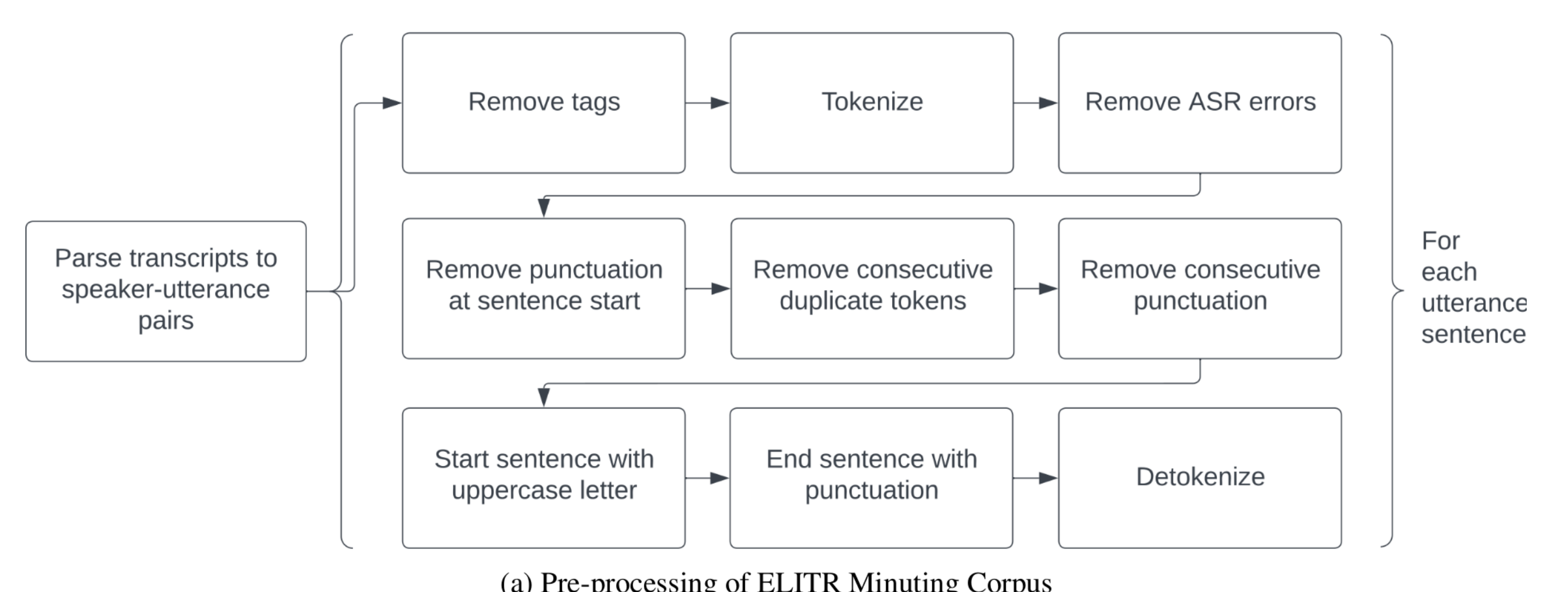
Summary

- ▶ We propose employing **BART-based models** for generating meeting minutes automatically from meeting transcripts.
- ▶ The pre-processed and segmented meeting transcripts are fed into the models, generating summaries that are subsequently combined and formatted into the final meeting minutes.
- ▶ We experiment with **varying segment lengths** and models trained on **diverse summarization corpora**.

System Overview



Pre-processing Overview



Results

Segment Length 512			
Model	ROUGE-1	ROUGE-2	ROUGE-L
MEETING_SUMMARY	0.364	0.111	0.179
bart-large-cnn-samsum	0.331	0.121	0.170
bart-large-xsum-samsum	0.367	0.119	0.184

Segment Length 768			
Model	ROUGE-1	ROUGE-2	ROUGE-L
MEETING_SUMMARY	0.390	0.113	0.191
bart-large-cnn-samsum	0.368	0.126	0.189
bart-large-xsum-samsum	0.388	0.113	0.194

Segment Length 1024			
Model	ROUGE-1	ROUGE-2	ROUGE-L
MEETING_SUMMARY	0.379	0.102	0.190
bart-large-cnn-samsum	0.380	0.115	0.191
bart-large-xsum-samsum	0.379	0.103	0.190

Segment Length 512			
Model	ROUGE-1	ROUGE-2	ROUGE-L
MEETING_SUMMARY	0.225	0.072	0.145
bart-large-cnn-samsum	0.261	0.075	0.157
bart-large-xsum-samsum	0.233	0.073	0.150

Segment Length 768			
Model	ROUGE-1	ROUGE-2	ROUGE-L
MEETING_SUMMARY	0.210	0.069	0.139
bart-large-cnn-samsum	0.251	0.072	0.153
bart-large-xsum-samsum	0.218	0.070	0.145

Segment Length 1024			
Model	ROUGE-1	ROUGE-2	ROUGE-L
MEETING_SUMMARY	0.198	0.066	0.133
bart-large-cnn-samsum	0.241	0.070	0.150
bart-large-xsum-samsum	0.206	0.068	0.140

```

DATE : 2023-05-01
ATTENDEES : PERSON1, PERSON2, PERSON3

SUMMARY
- PERSON1 is in the office today.
- PERSON2 is waiting for the person who was supposed to join the group.
- The person has not turned up yet.
- There was a technical communication meeting.
- The participants were told to prepare their papers for special sessions according to the same criteria as PERSON3, PERSON2 and PERSON1 are planning a mini conference.
...
- They are going to usep1 format.
- The paper is open access and indexed in Cosmopile Google color.
- PERSON3 wants to differ the discussion with PERSON4.
- They need to revise the proposal and leave down the thing that they need to do for the satellite event.
- They will meet tomorrow.

Minuted by: Team Synapse
  
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(a) Automatic evaluation for ELITR Minuting Corpus

(b) Automatic evaluation for EuroParlMin Corpus

(c) Sample output

- ▶ Tested **BART large** summarization models:
 - MEETING_SUMMARY (Hugging Face model trained on XSUM Dataset, AMI Meeting Corpus, SAMSUM Dataset, and DIALOGSUM Dataset)
 - bart-large-cnn-samsum (Hugging Face model trained on CNN Daily Mail, and SAMSUM Dataset)
 - bart-large-xsum-samsum (Hugging Face bart-large-xsum model trained on XSUM Dataset that we further fine-tuned on SAMSUM Dataset)
- ▶ **Automatic evaluation** was used only as a **supplementary measure**, final models were primarily chosen based on **manual assessments**.
- ▶ **MEETING_SUMMARY** model proved effective for the **ELITR Minuting Corpus**, benefiting from being trained on dialogue datasets with short utterances.
- ▶ **bart-large-cnn-samsum** model worked for **EuroParlMin Corpus** since utterances in the corpus are long and do not resemble dialogues much.