SummScreen: A Dataset for Abstractive Screenplay Summarization

Mingda Chen, Zewei Chu, Sam Wiseman, Kevin Gimpel
The apartment
Sheldon: What color would you like to be?
Leonard: Well, I'd like to be green, but you know you always take it.
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Penny: Well, did you tell him that?
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...
Recap:
Sheldon and Leonard are happy playing a board game until Amy and Penny say they are tired of doing what the guys want...
SummScreen

- SummScreen has
  - ≈ 100 TV shows
  - ≈ 30k episodes
  - ≈ 300~400 lines for each transcript
  - ≈ 300 word tokens for each recap

Transcript:

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SummScreen combines **long source inputs**, large numbers of speakers, and a moderate number of instances.
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the unique domain leads to characteristics: e.g.,

• complex interactions between characters

• character dialogues + action descriptions
**Dataset Challenges**

- Plot details are often expressed indirectly in character dialogues
- References about a board game (shown in red)

**Transcript:**

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**Recap:**
Sheldon and Leonard are happy playing a board game until Amy and Penny say they are tired of doing what the guys want...
Dataset Challenges

- Plot details are often expressed indirectly in character dialogues
- References about a board game (shown in red)
- Clues about the characters’ feelings about playing the board game (underlined)

Transcript:
[ The apartment ]
Sheldon: What color would you like to be?
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Recap:
Sheldon and Leonard are happy playing a board game until Amy and Penny say they are tired of doing what the guys want...
Dataset Challenges

- Plot details are often expressed indirectly in character dialogues.
- Plot details may be scattered across the entirety of the transcript.

Transcript:

Line 119 DOCTOR : Camera ! Camera ! ( takes camera from ALEC 'S unresisting hands )
...
Line 212 The DOCTOR turns around and continues to take photos with the camera ...
...
Line 287 The DOCTOR steps out of the TARDIS wearing the spacesuit ... He scans with the sonic before picking up the camera to take a few pictures .
...
Line 336 DOCTOR : Right ! Done ! That 's it ... She 's not a ghost ... but she 's definitely a lost soul . ( walks over to screen ) Her name 's Hila Tacorian . She 's a pioneer , a time traveller - or at least she will be , in a few hundred years .

Recap:

... the Doctor borrows Alec 's camera and uses the TARDIS to take pictures of the mansion 's location throughout time . Thanks to this , the Doctor learns it 's not a ghost in the pictures , but a time traveler named Hila Tacorian ...
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Methods

• Neural models

• Nearest neighbor models (NNM): retrieve summaries from the training set

• Hybrid models (nearest neighbor content selector → neural models)
Evaluation Metrics

• Generic metrics: BLEU and ROUGE scores

• Entity metrics:

  • Bag of characters (BoC): the fraction of the **characters** overlapping with gold

  • Bag of character relations (BoR): the fraction of the **cooccurred character pairs** overlapping with gold
# Experimental Results

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Average scores for the generic metrics and entity metrics when evaluating the models on part of the SummScreen test set.
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Average scores for the generic metrics and entity metrics when evaluating the models on part of the SummScreen test set

- NNM shows strong performance.
- With the help of the oracle content selector, the hybrid model improves significantly in both semantic matching and entity-related metrics.
Conclusion

• We constructed an abstractive summarization dataset SummScreen from fan-contributed websites.

• SummScreen has a unique set of challenges: drawing information from a wide range of the input and understanding the context, among others.

• Having a strong content selector can benefit model performance on SummScreen.
Conclusion

• SummScreen is used in
  • a benchmark for long text (SCROLLS)
  • shared tasks for an upcoming workshop (Creative-Summ)
• Scan the QR code to check out our dataset!