

Xai and Summarization Research Assistant

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Proposed Dataset

1. As Discussed in the Class, The dataset I'll be using is **SciSummNet**.
2. This corpus has 1000 Research Papers, with 10 citings per paper and a gold standard summary for each of them.
3. Though our work didn't include citations previously, It would be an addition for our to produce richer and more useful summary beyond paper.
4. Saving us 600 hours of PhD Human work.
5. Trustable large-scale corpus by Yale University.
6. link to the corpus and paper: scisumm.net

Proposed Model

1. Hybrid-Model usage.
2. We would be using BigBird PEGASUS large ArXiv and LongT5.
3. This is proposed to overcome the complexity and computation offered by LongT5 even for RP with tokens < 4000 .
4. BigBird PEGASUS could be a good starting point to build up our pipeline as we progress forward in our project. (**MILESTONE 1**)
5. Parallely, I could fine-tune longT5 to process RP with tokens > 4000 and produce richer summary by extracting citations.
6. These models are subjected to change if I come across any other model or methodology that outperforms them.

Proposed Explainability

1. Leveraging multiple explainability techniques, we are going to use layer wise Explainability.
2. Explainability layer:
 - Primary: Attention visualization
 - Secondary: LRP for important/disputed claims
 - Tertiary: Extractive alignment validation
3. How it works?
 - [🔍] Click for attention view - Shows which parts model focused on
 - [📊] Click for LRP analysis - Shows true contribution scores
 - [✓] Click for validation - Shows extractive support
4. This part of the project is expected to change as I haven't fully dived deeper into it.