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Automated Judicial Case Briefing

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Research Question

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Can we create a model that extracts relevant information from extremely long legal documents?

Motivation	Expedite time consuming human work in judicial case summarization task
Challenges	1) Extremely long judicial case opinions (over 0.36 million words) 2) From the same input, each task looks for summary from different parts of input
Evaluation	ROUGE score & evaluation by human expert (lawyer)

Planned Experiments

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- **Dataset:** ~10k case opinion texts from US Supreme Court
- **Tasks:** Extraction of relevant information (summary, holding, fact, question, conclusion)
- **Approach:**
  - Compare baseline summarization models: BART, Pegasus, T5, etc.
  - Apply to different tasks and evaluate the model
    (ROUGE score & human expert's evaluation on informativeness, fluency and non-redundancy)
  - Fine-tune models to see any improvements
  - Try different methods on input: paragraph ranking, optimal input split

Progress and Timeline

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Completed

- EDA on our dataset
- Initial research on potential methods
- Generate baseline models and compare result on a sample task
- Transition to cluster

Current Work

- Set up training / prediction pipeline
- Experiment different tasks with the baseline model
- Share baseline result with lawyer

Future Work

- Fine-tune model for each task
- Apply strategies based on initial research
- Improve model based on feedback from lawyer