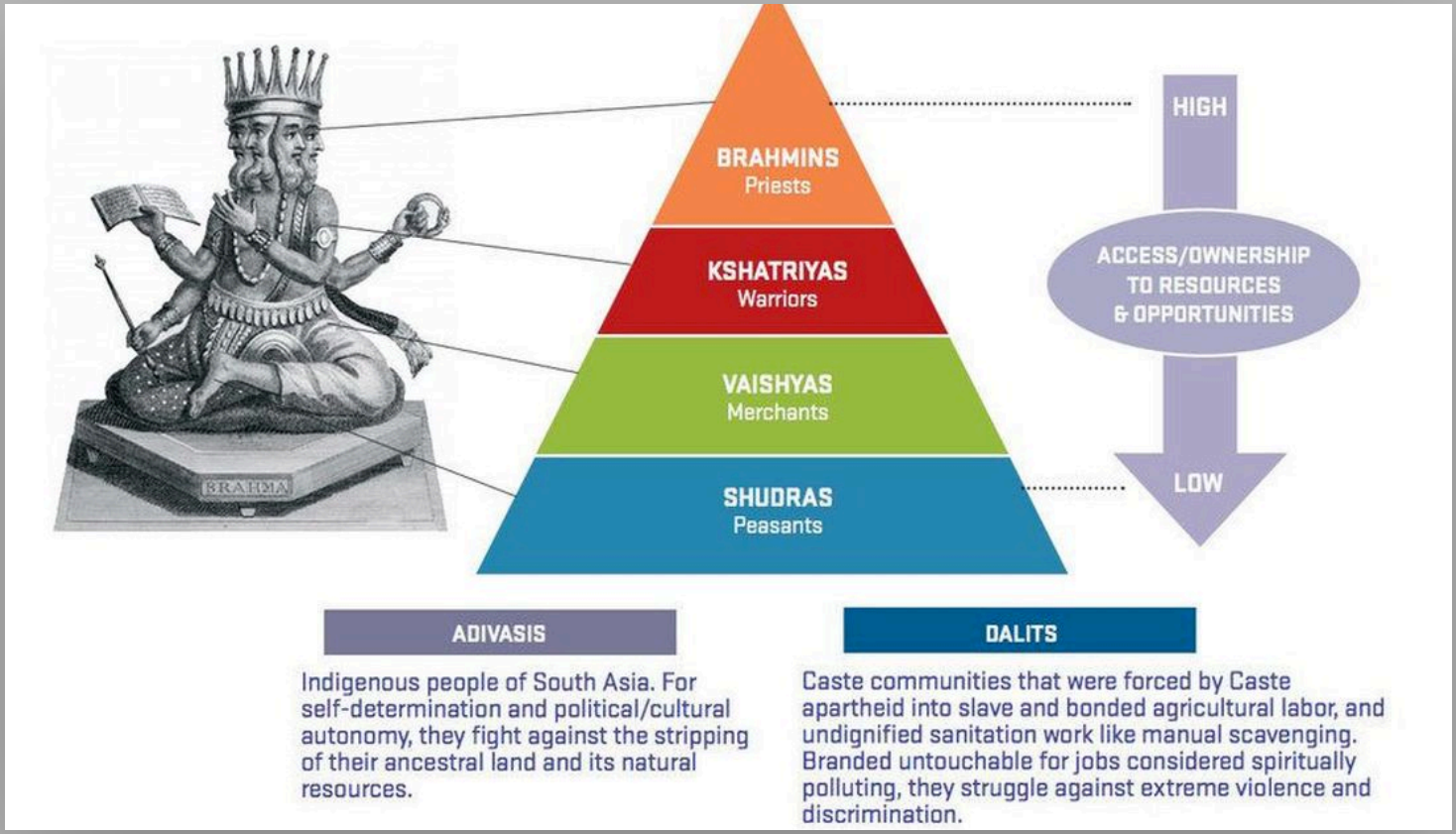
Modeling Social Media Narratives about Caste-related News

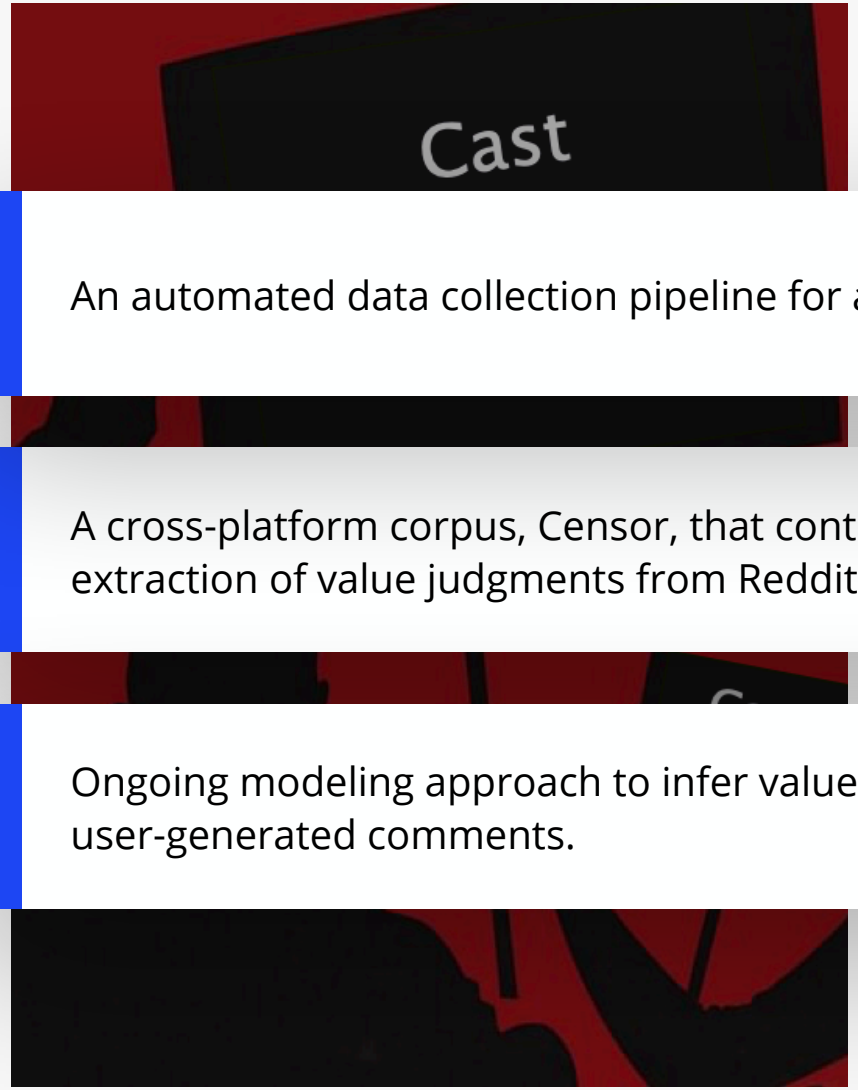
Prashanth Vijayaraghavan and Lavanya Vijayaraghavan

About
Caste System



> *The outcaste is a bye-product of the caste system. Nothing can emancipate the outcaste except the destruction of the caste system.*
>
> — Dr. *B.R. Ambedkar*

Key Contributions



An automated data collection pipeline for aggregating caste-related stories.

A cross-platform corpus, Censor, that contains characteristic narratives aggregated using extraction of value judgments from Reddit content related to caste-related stories.

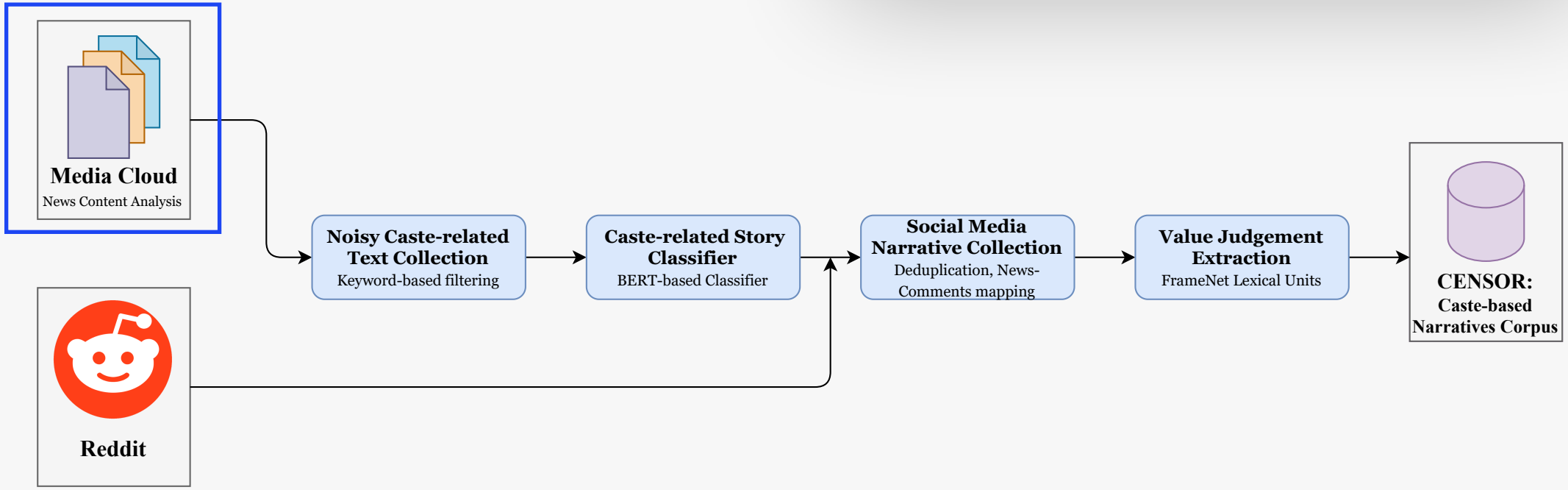
Ongoing modeling approach to infer value judgments and generate counter-narratives for user-generated comments.

Data Sources

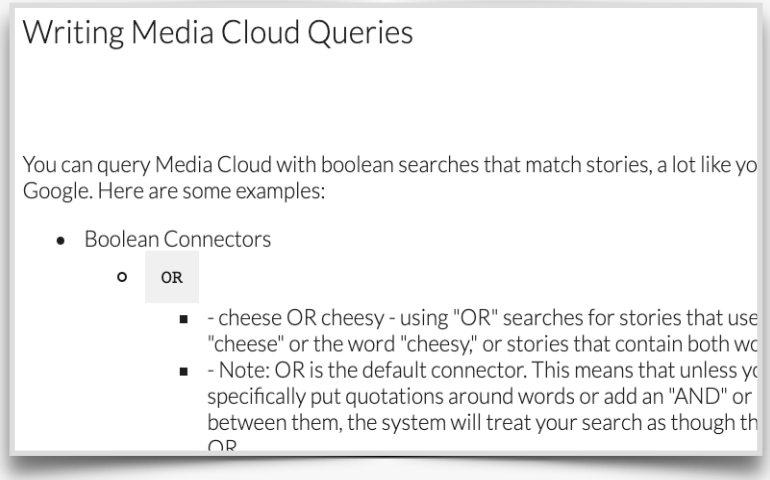
Explorer MEDIA CLOUD

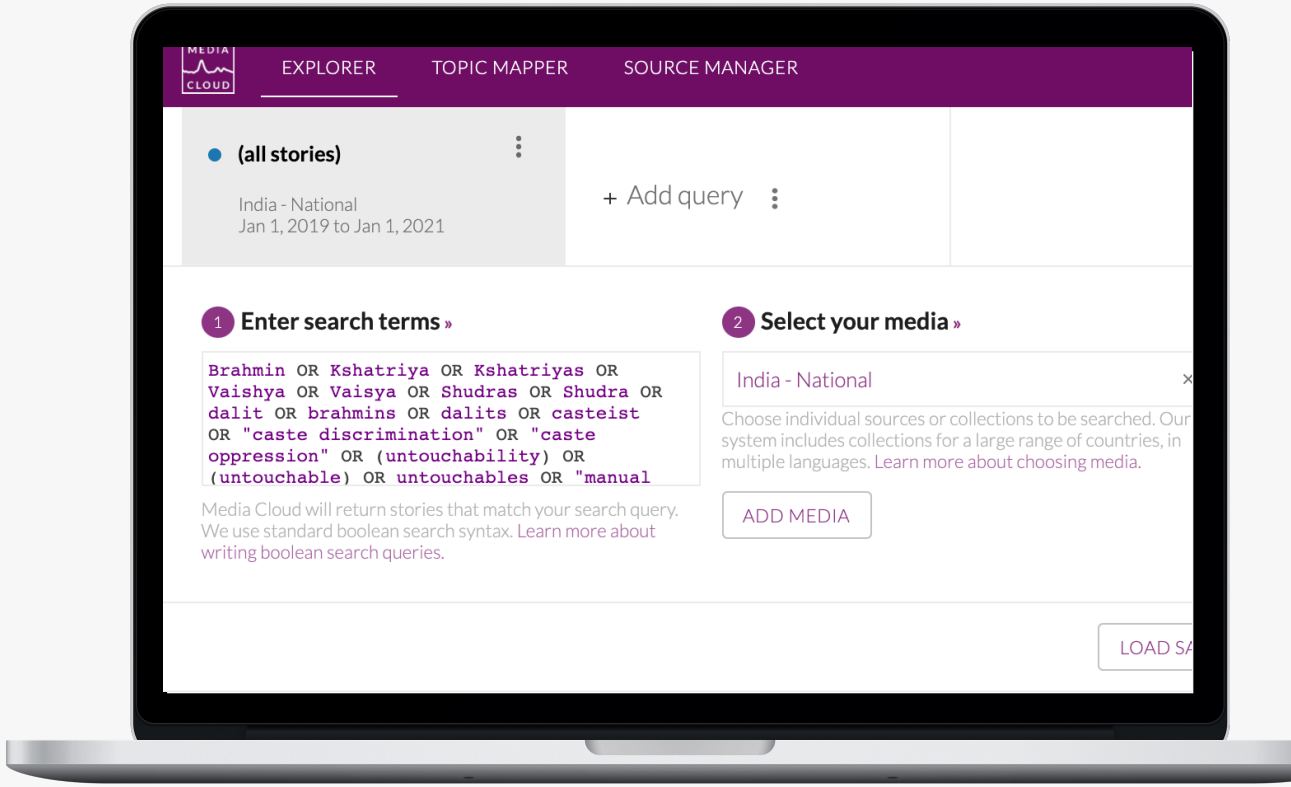
Get a quick overview of how your topic of interest is covered by digital news media by exploring attention, language, and entities.

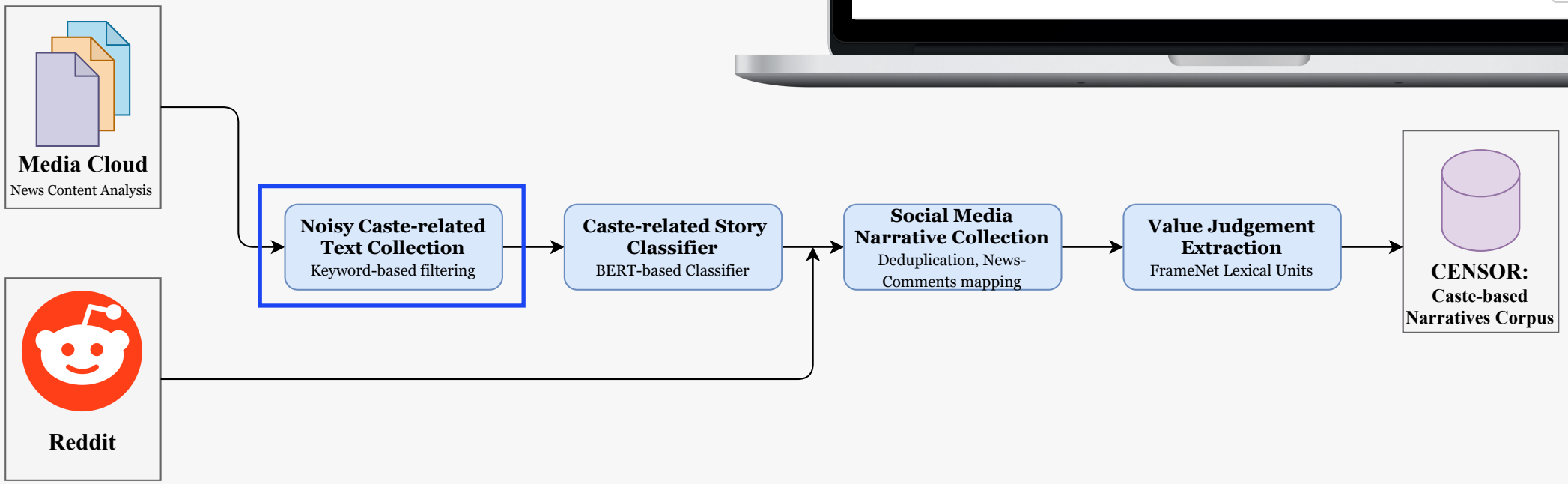
- Media Cloud tracks millions of stories and provides instant analysis of digital news over various topics.
- Media Cloud allows users to choose media collections and submit boolean queries that match these sources' stories.



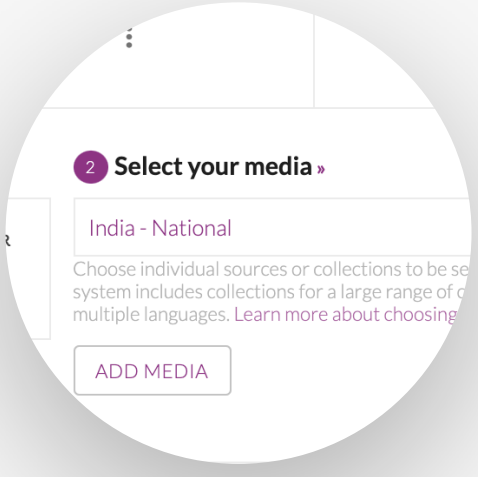
Noisy Caste-related Text Collection

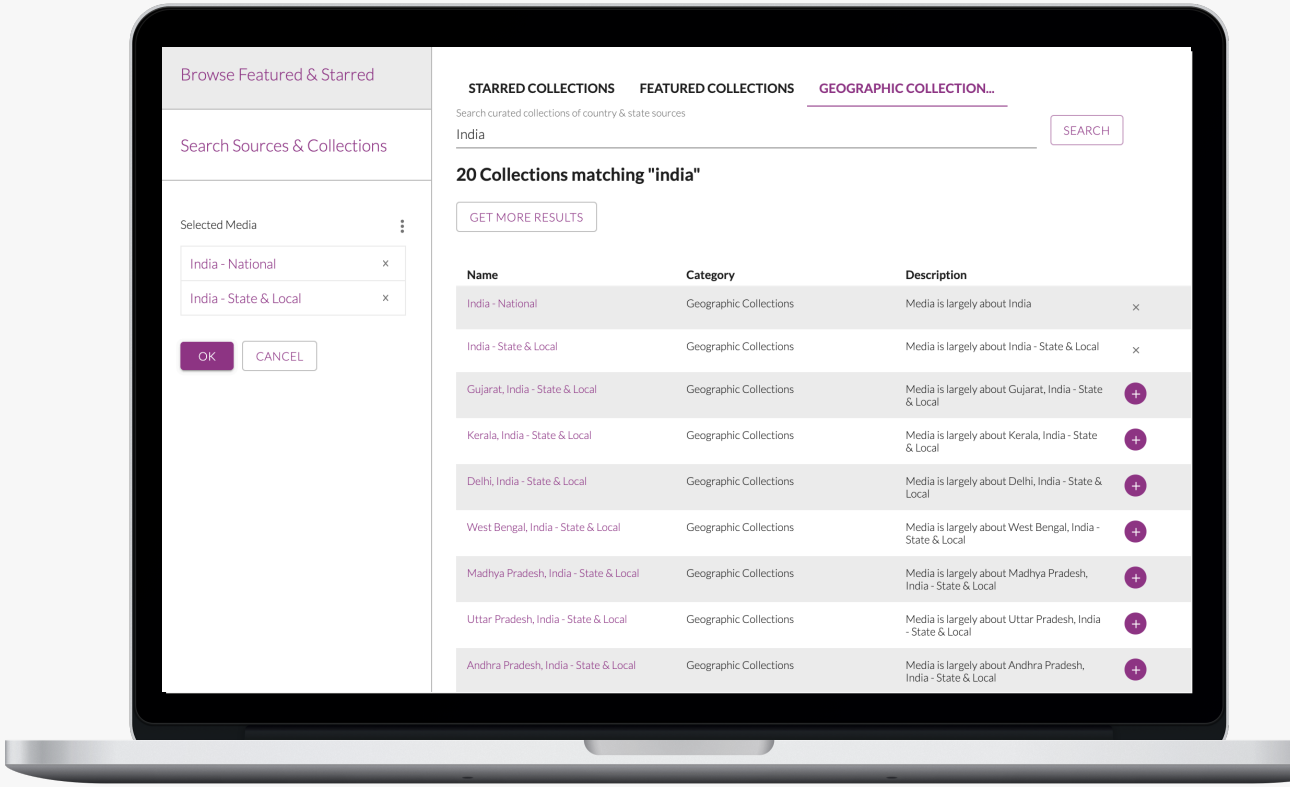


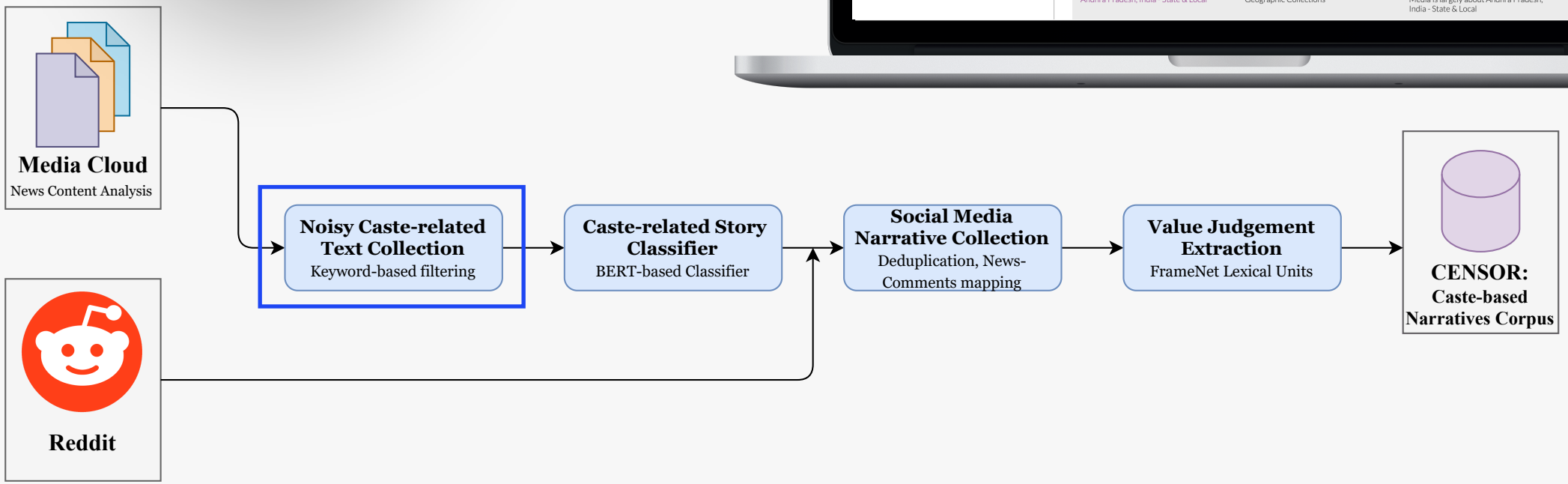




Noisy Caste-related Text Collection



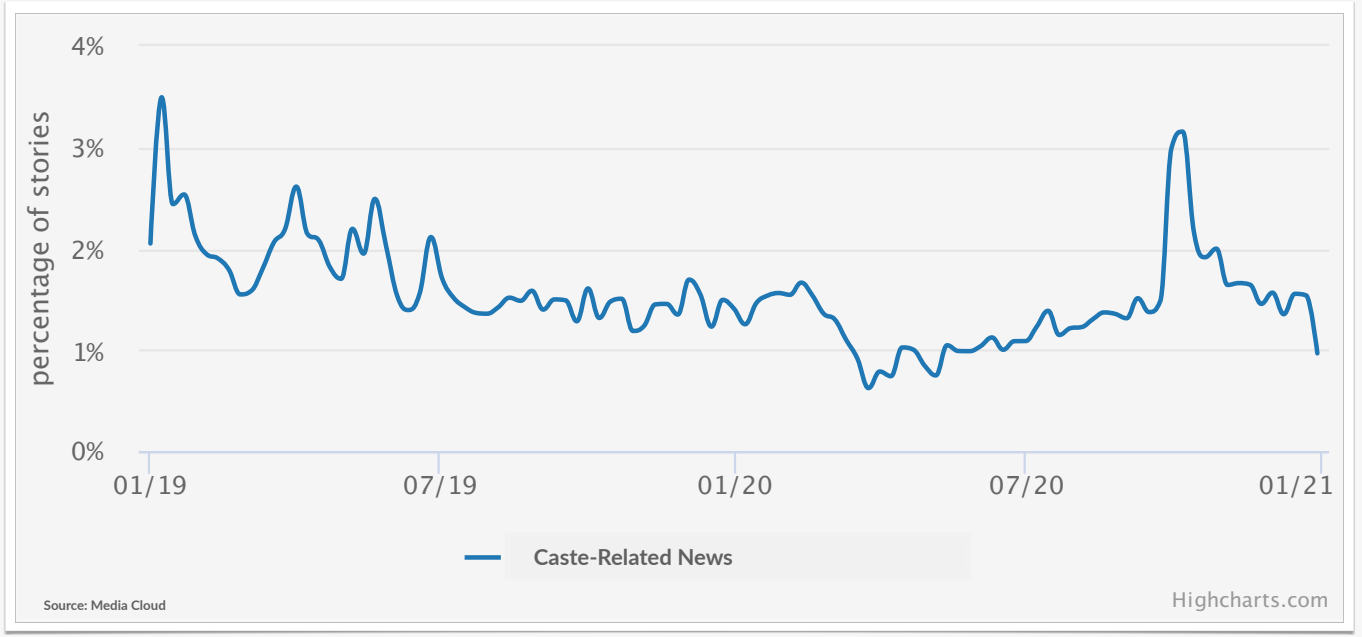


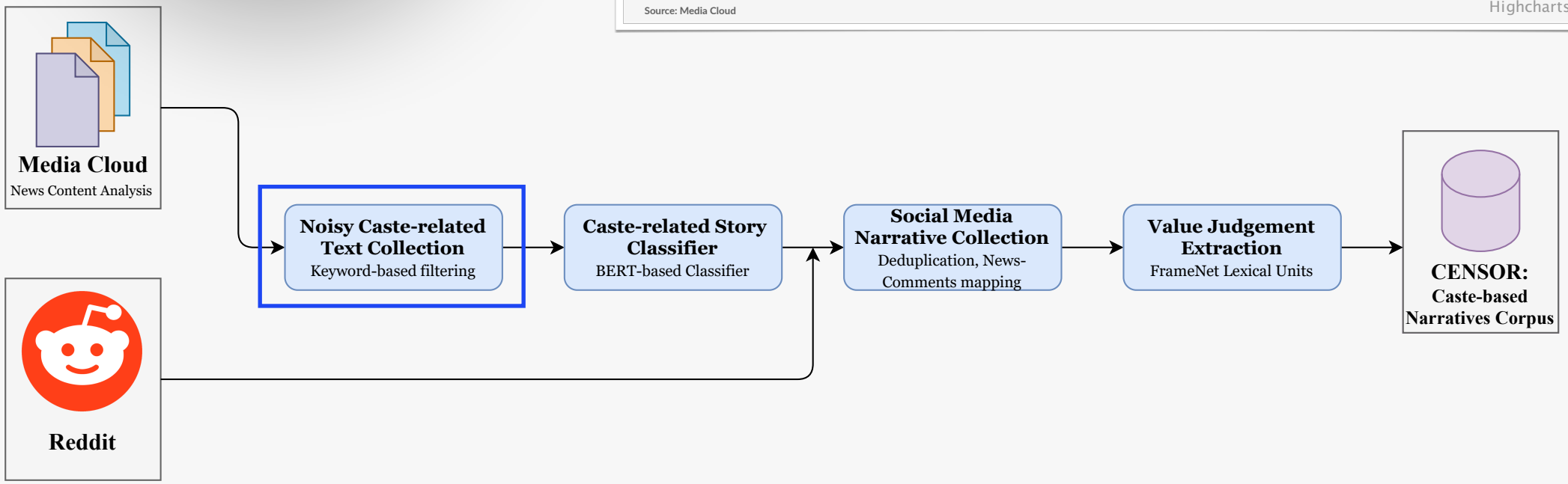


Noisy Caste-related Text Collection

Attention Over Time

Compare the attention paid to your queries over time to understand how they are covered. This chart shows the number of stories that match each of your queries. Spikes in attention can reveal key events. Plateaus can reveal stable, "normal", attention levels. Click a point to see words and headlines for those dates. Use the "view options" menu to switch between story counts and a percentage.

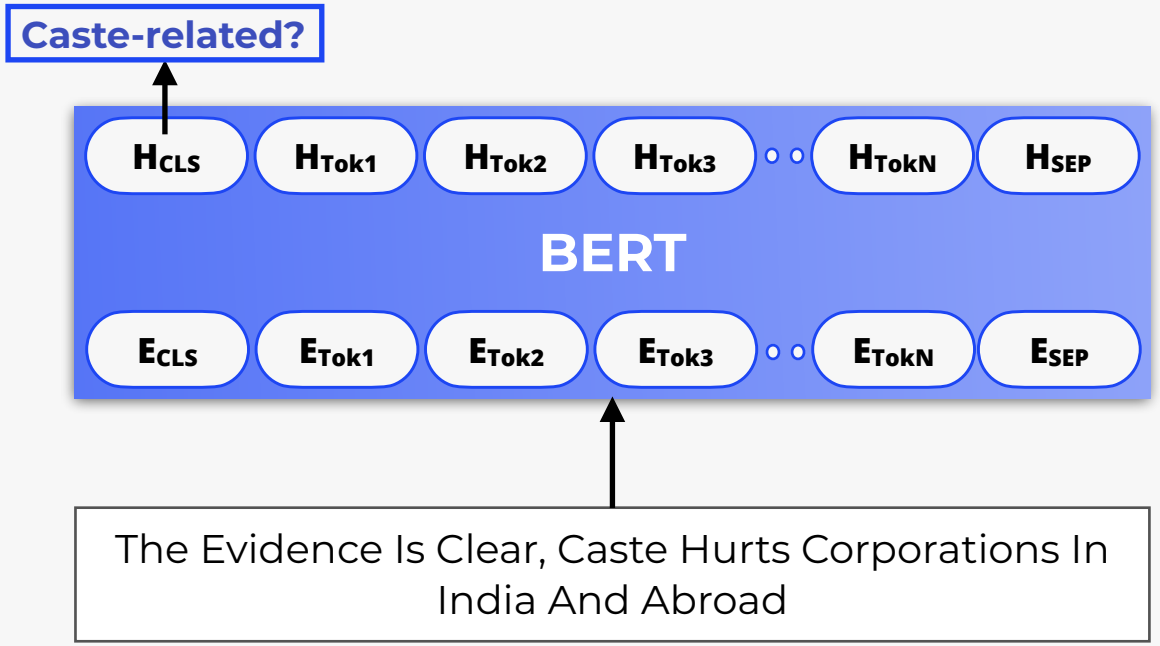


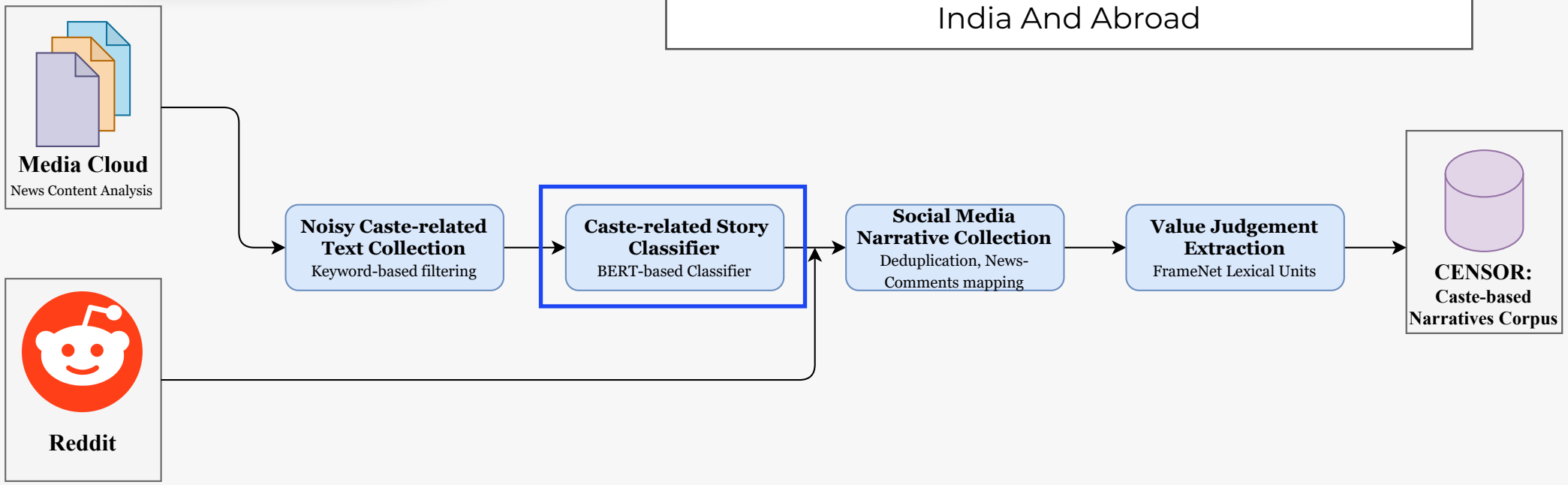


Caste-related Story Classifier

89.6%

F1-Score

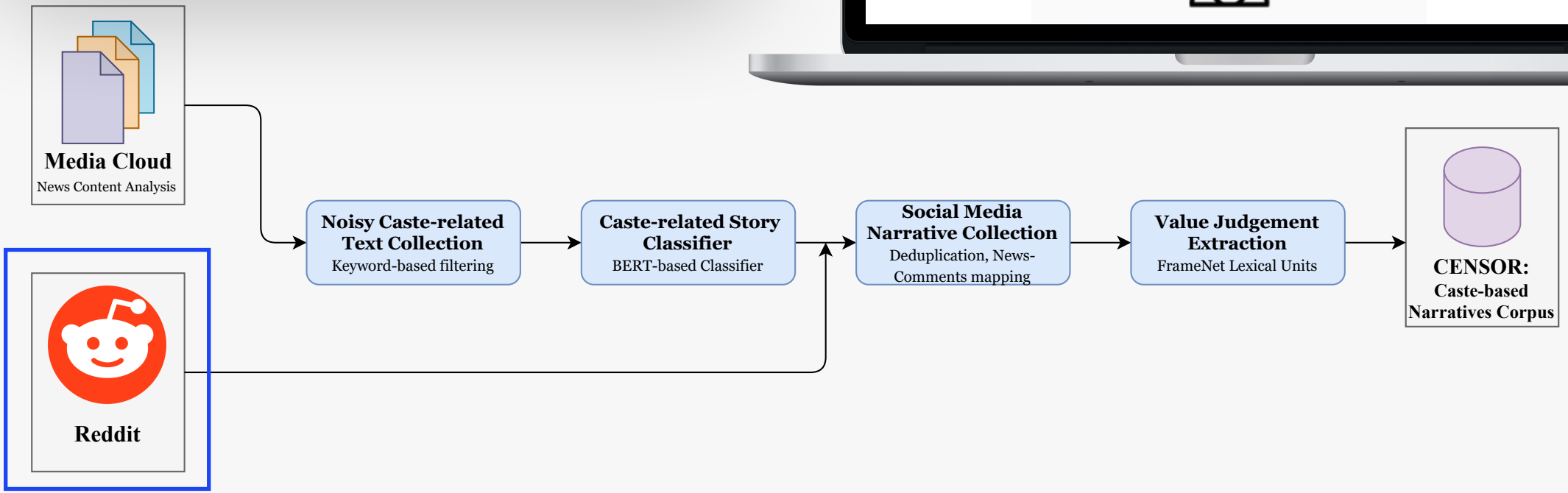




Data Sources

- PushShift API is used to find public subreddits based on keywords to view the top subreddits and use other parameters (like NSFW) to discover the top subreddits in various categories.

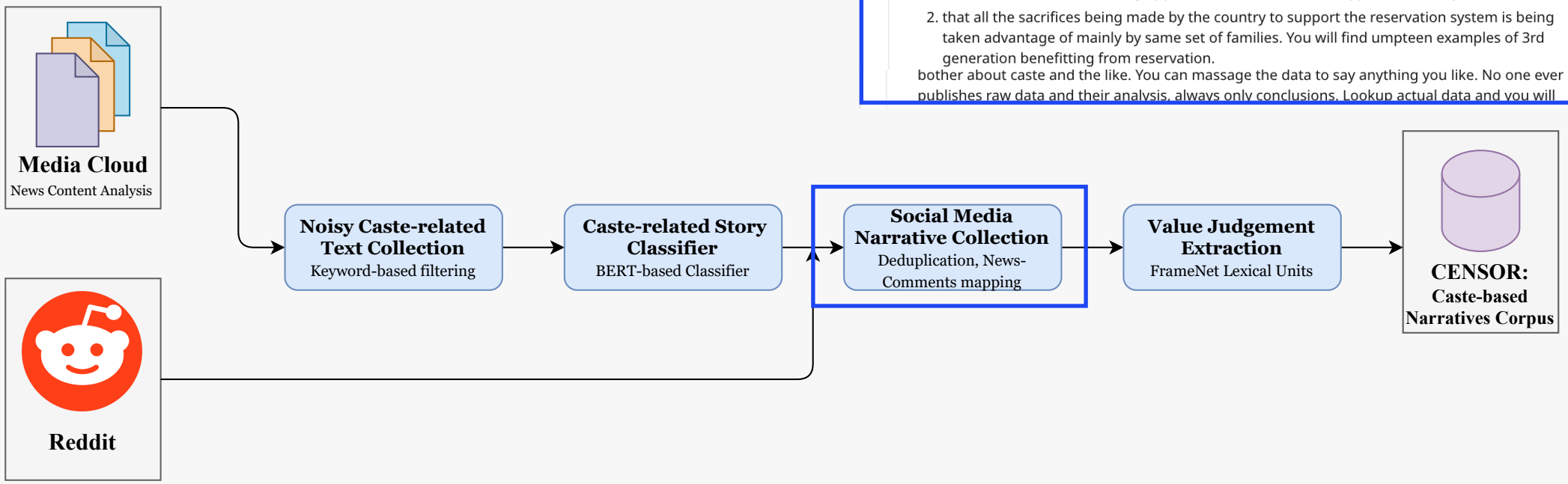
- API Endpoints:
  - /reddit/comment/search
  - /reddit/submission/search
  - /reddit/subreddit/search



Social Media Narrative Collection

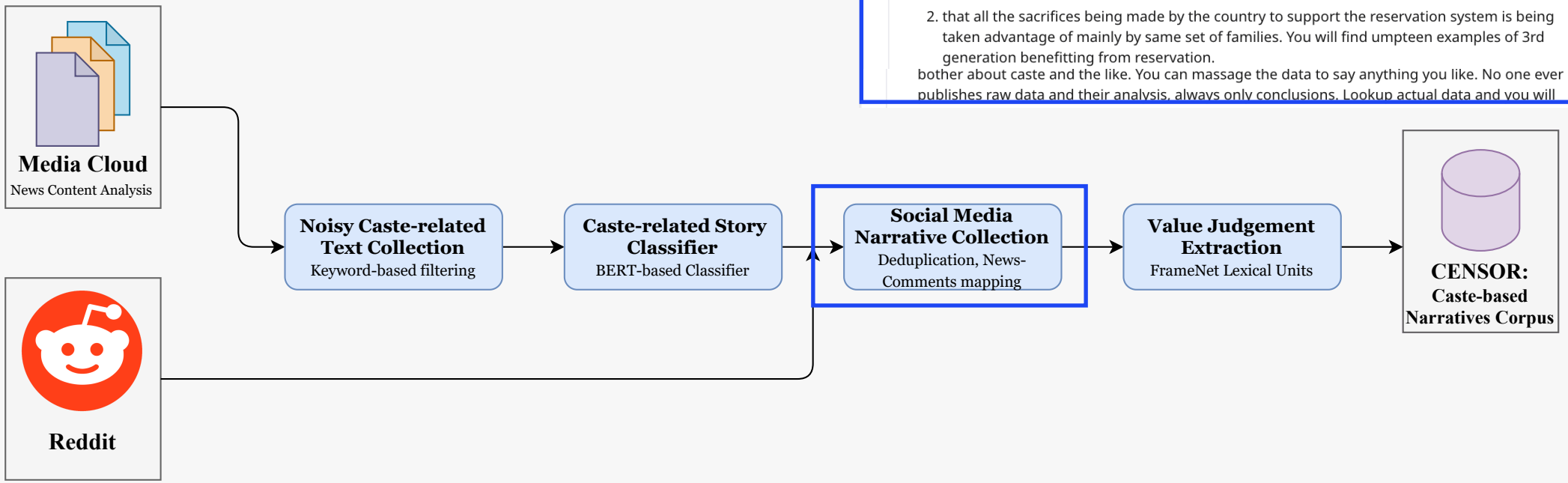
MEDIA CLOUD

The Evidence Is Clear, Caste Hurts Corporations In India And Abroad



Social Media Narrative Collection

Dataset Statistics	
#Noisy Caste-related Collection	180,423
#Caste-related Stories	138,848
#Matched Reddit Posts	21,589
#Total Comments	863,560



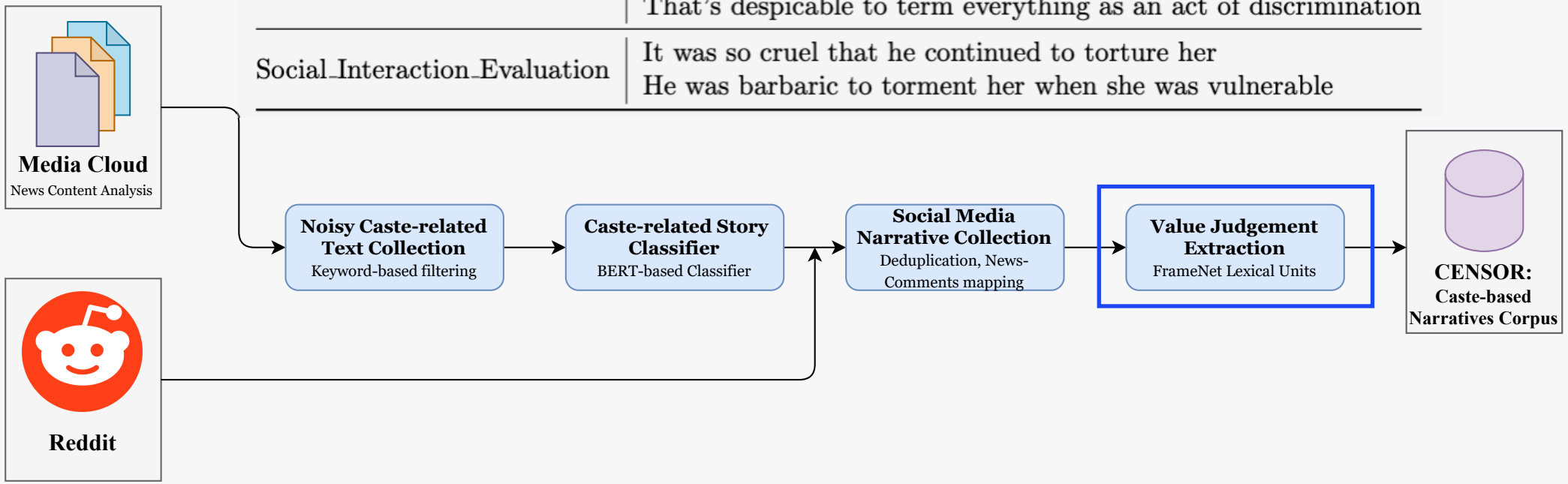
Value Judgements Extraction

About FrameNet | reddit | Search

Frame-frame Relations:

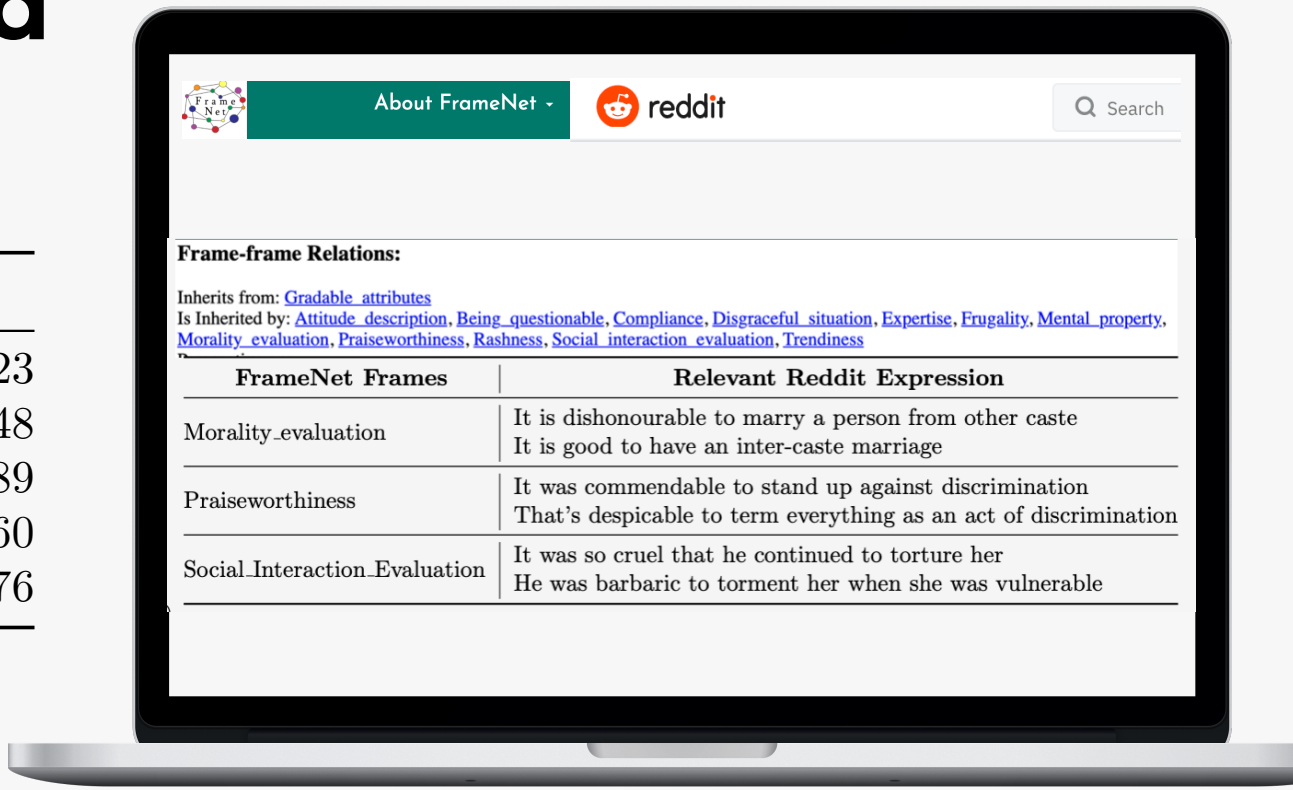
Inherits from: Gradable_attributes
Is Inherited by: Attitude_description, Being_questionable, Compliance, Disgraceful_situation, Expertise, Frugality, Mental_property, Morality_evaluation, Praiseworthiness, Rashness, Social_interaction_evaluation, Trendiness

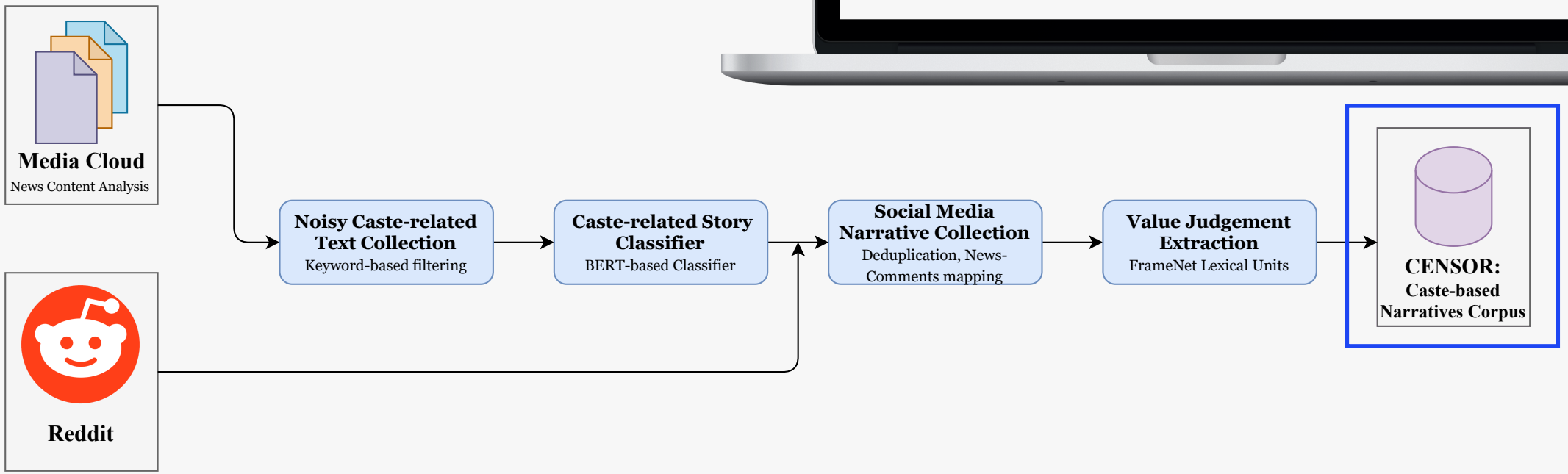
FrameNet Frames	Relevant Reddit Expression
Morality_evaluation	It is dishonourable to marry a person from other caste It is good to have an inter-caste marriage
Praiseworthiness	It was commendable to stand up against discrimination That's despicable to term everything as an act of discrimination
Social_Interaction_Evaluation	It was so cruel that he continued to torture her He was barbaric to torment her when she was vulnerable



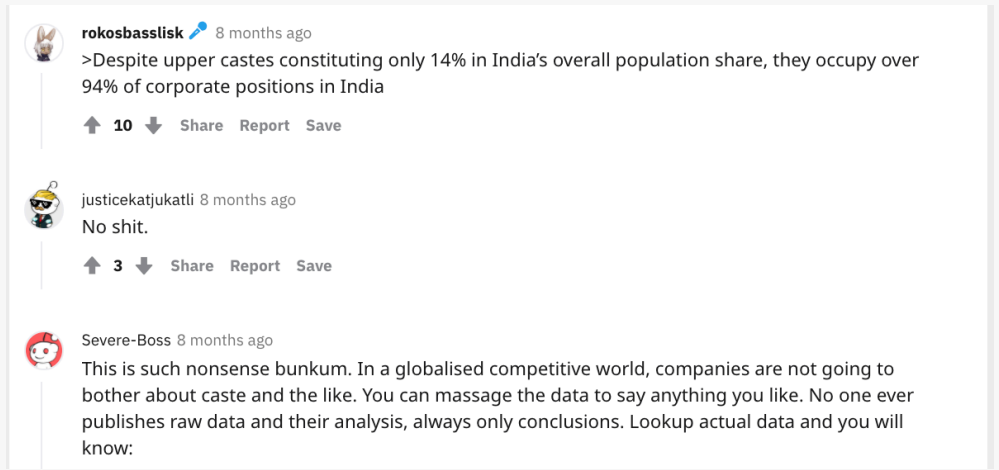
CENSOR: Caste-based Narratives Corpus

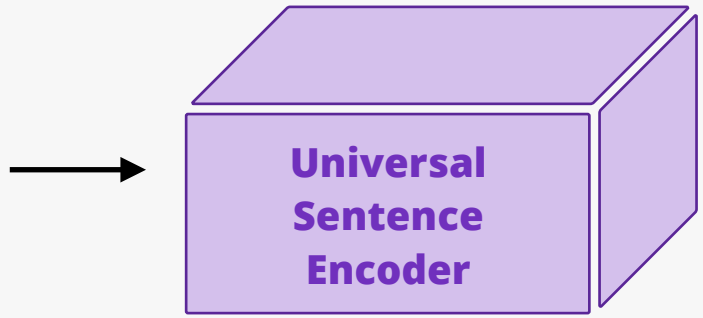
Dataset Statistics	
#Noisy Caste-related Collection	180,423
#Caste-related Stories	138,848
#Matched Reddit Posts	21,589
#Total Comments	863,560
#Total Comments w/ Value Judgements	118,776



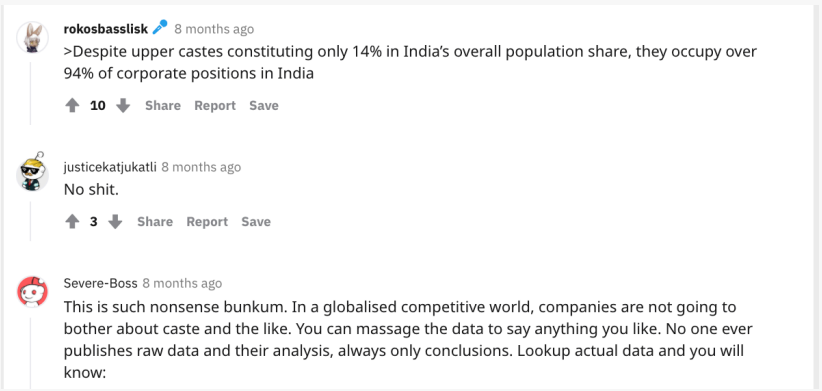


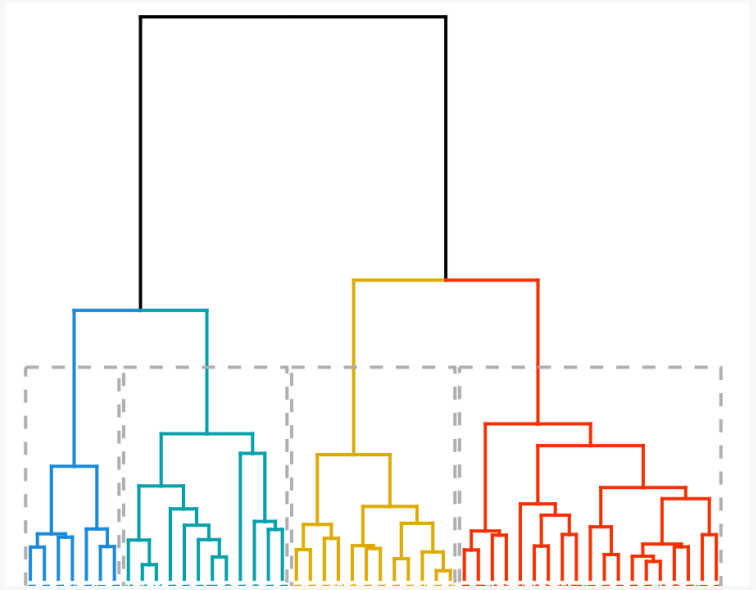
Ongoing Modeling Work:
Embedding Comments



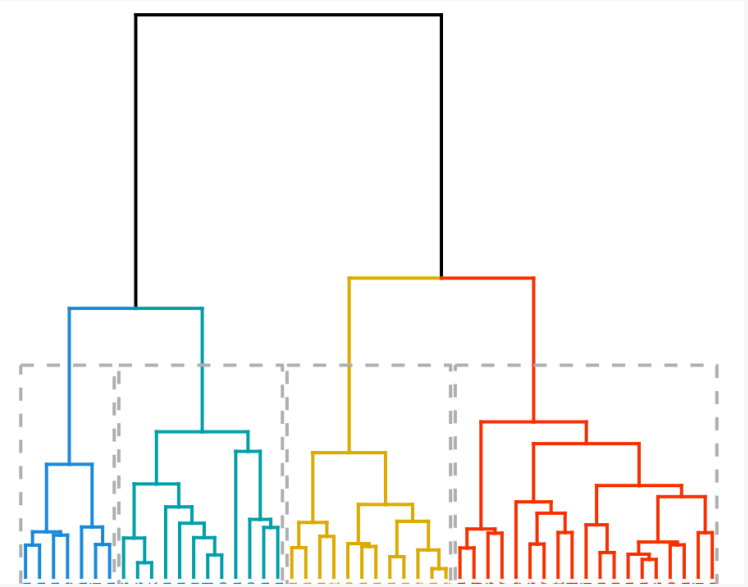


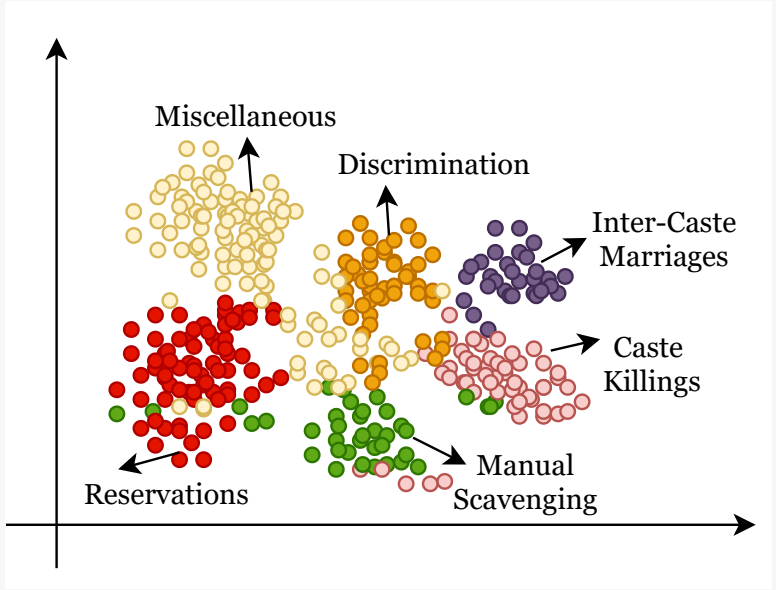
Ongoing Modeling Work:
Hierarchical Clustering



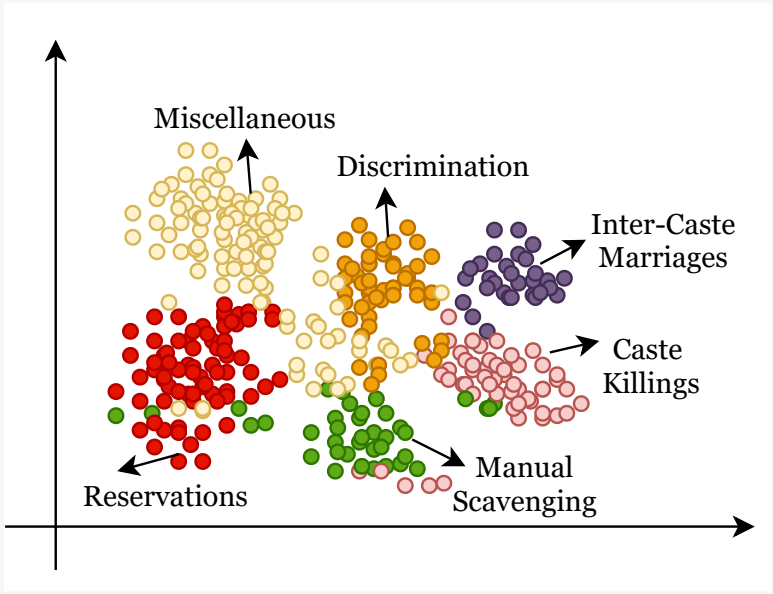


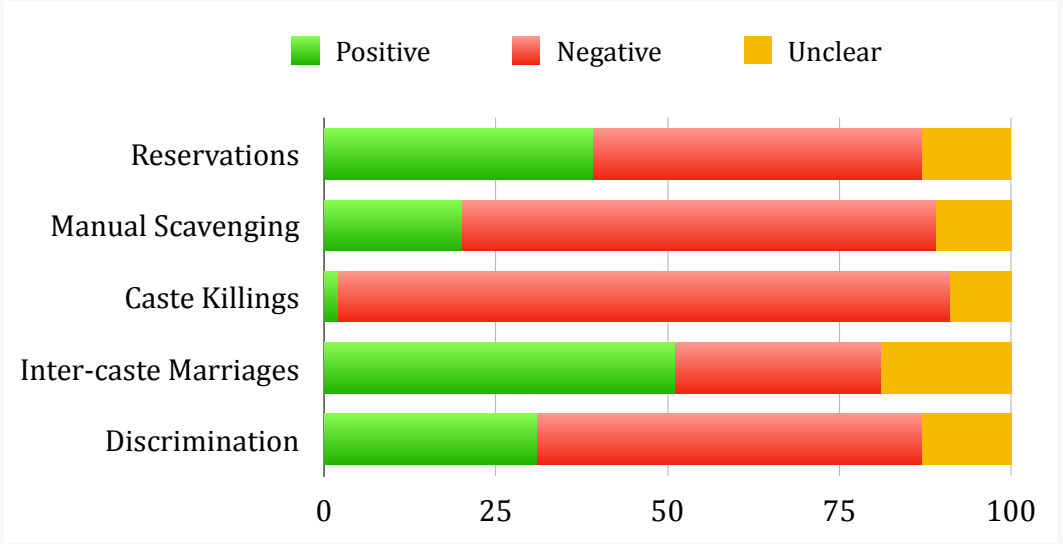
Ongoing Modeling Work:
Hierarchical Clustering



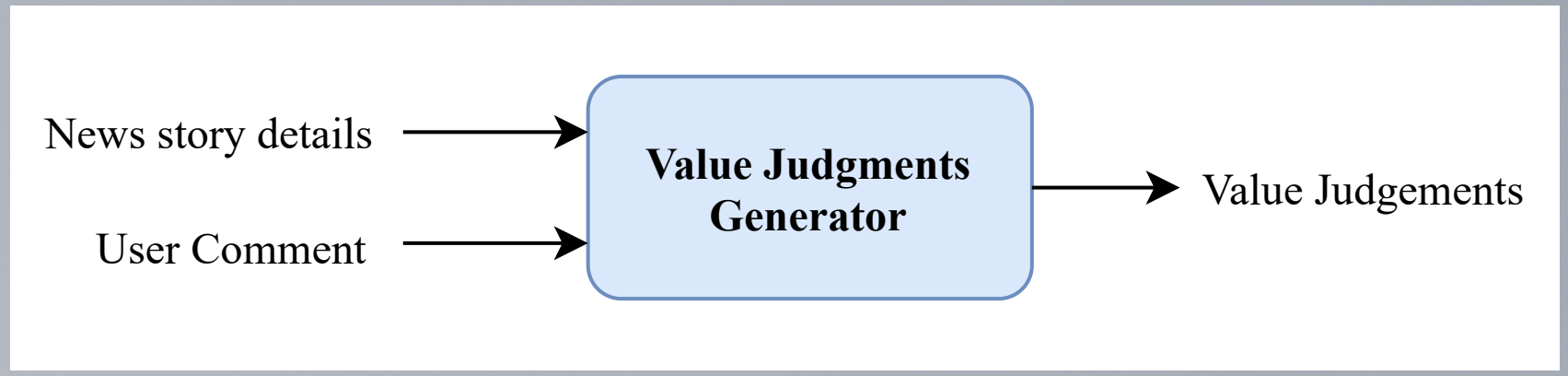


Ongoing Modeling Work:
Emotional Valence

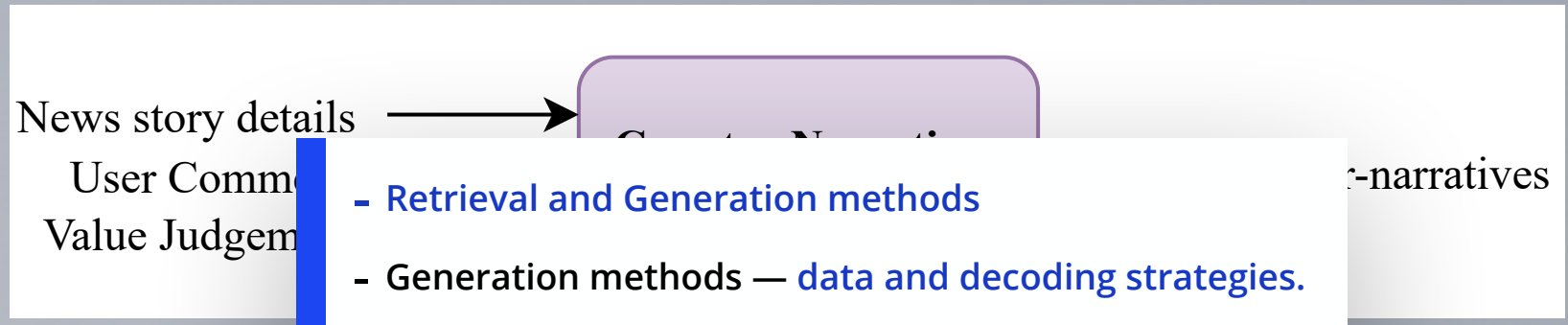




Ongoing Modeling Work:
Automatic Value Judgement Extractor/Generator



Ongoing Modeling Work:
Generate Counter Narratives



- Retrieval and Generation methods
- Generation methods — data and decoding strategies.
- Pretrained LMs using DAPT/PPLM
- Automatic and Manual Evaluation Metrics

1. Dathathri, Andrea Madotto, Janice Lan, Jane Hung, Eric Frank, Piero Molino, Jason Yosinski, and Rosanne Liu. Plug and play language models: A simple approach to controlled text generation. arXiv preprint arXiv:1912.02164, 2019.
2. Suchin Gururangan, Ana Marasovi´c, Swabha Swayamdipta, Kyle Lo, Iz Beltagy, Doug Downey, and Noah A Smith. Don't stop pretraining: Adapt language models to domains and tasks. arXiv preprint arXiv:2004.10964, 2020.

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Thank You!

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