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Goonmeet Bajaj

Wright State University - Main Campus, bajaj.3@wright.edu

Tanvi Banerjee

Wright State University - Main Campus, tanvi.banerjee@wright.edu

Amir Hossein Yazdavar

Wright State University - Main Campus

Valerie L. Shalin

Wright State University - Main Campus, valerie.shalin@wright.edu

Amit Sheth

Wright State University - Main Campus, amit@sc.edu

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Measuring Gender-Based Violence Attitude on Twitter

Goonmeet Bajaj, Tanvi Banerjee, Amir Hossein Yazdavar, Valerie Shalin, Amit Sheth

Kno.e.sis Center, Wright State University, Dayton, OH

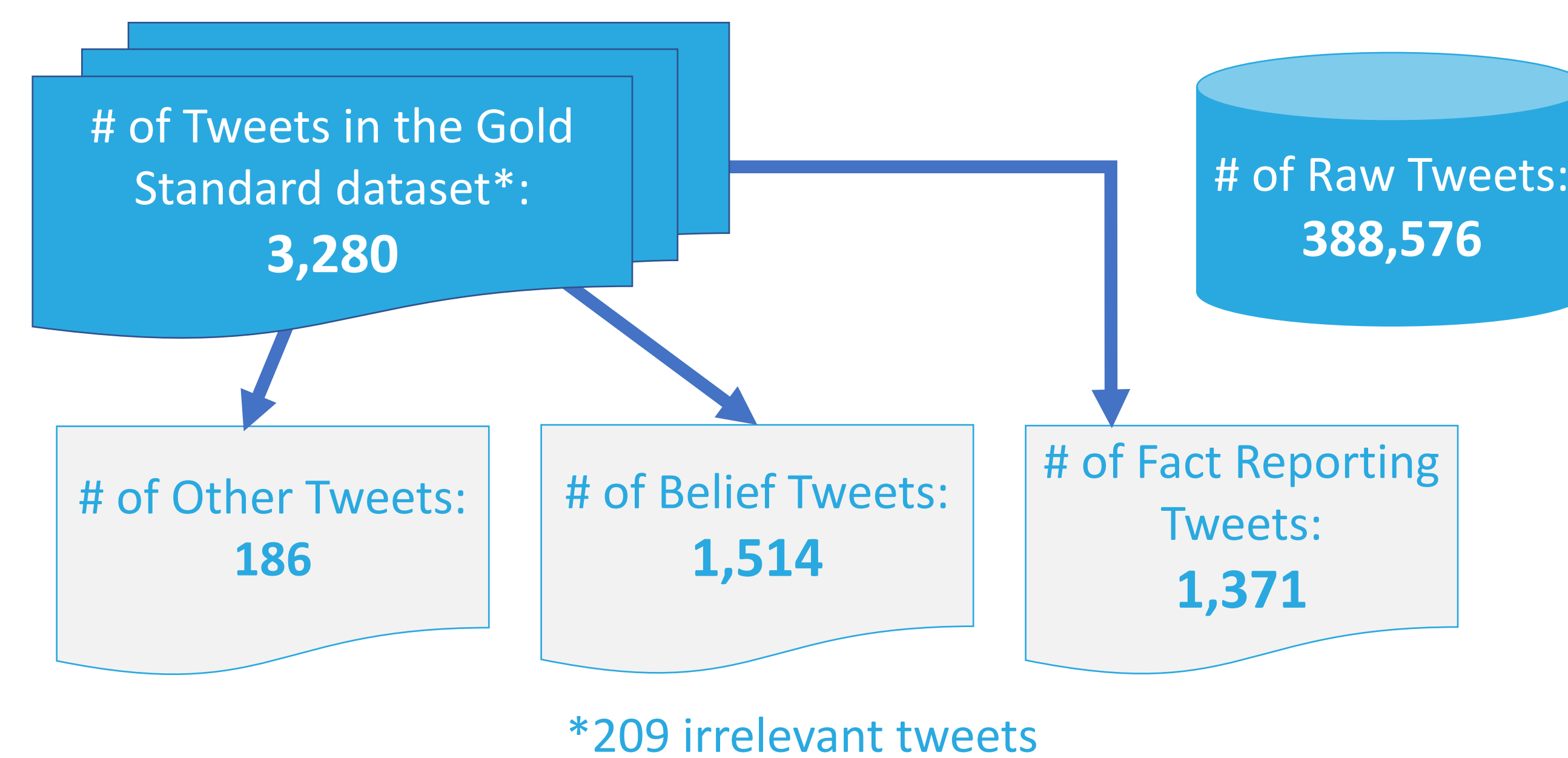


Overview

This study examines social media to analyze communication patterns, specifically in the Gender-Based Violence domain. It explores the pragmatic content of tweets to categorize them into one of the following groups: **Belief**, **Fact Reporting**, or **Other** to determine the tweeting practices prevalent in this domain.

- Key note: $Fact\ Reporting + Belief = Belief$

Dataset



Gold Standard Guidelines

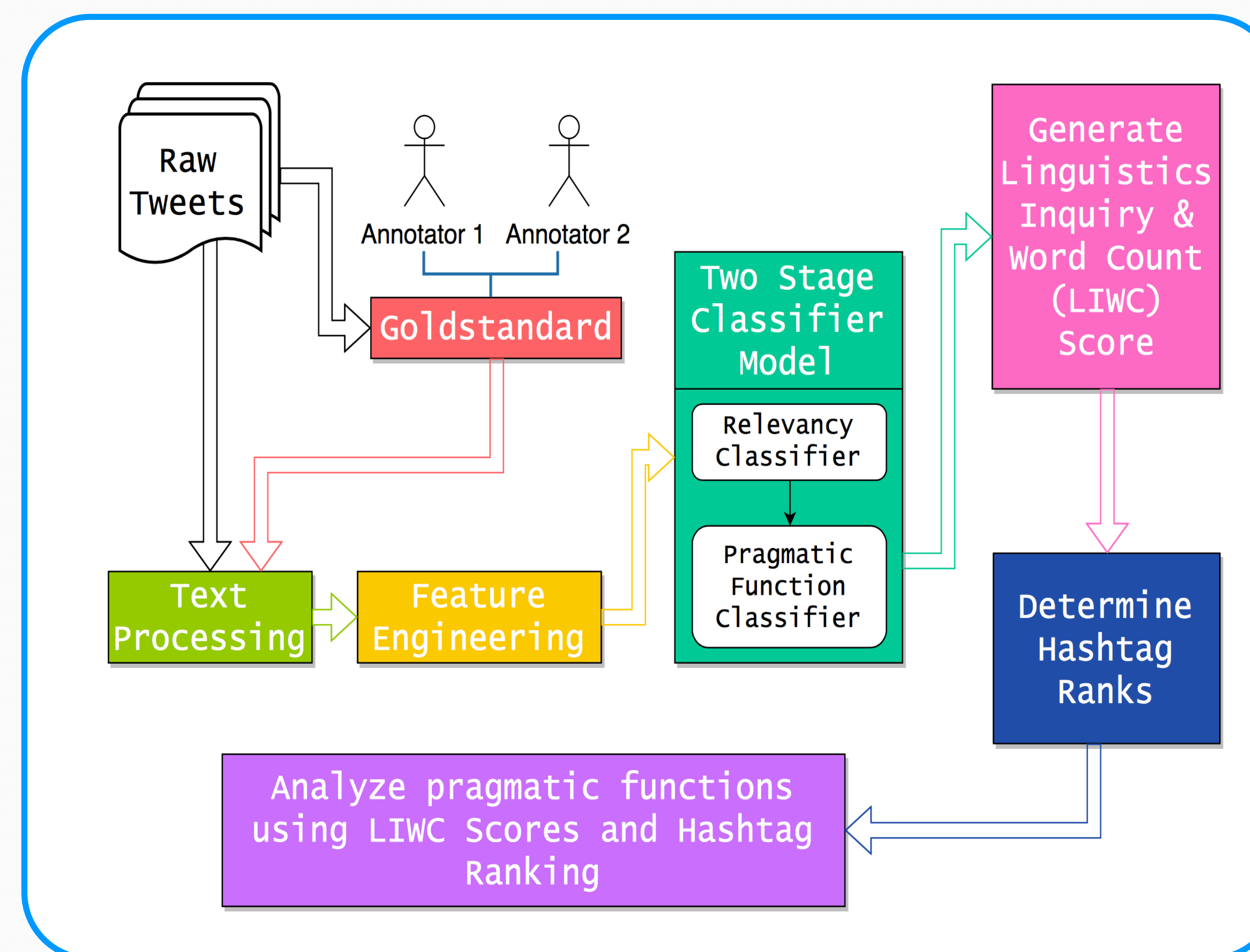
Belief: The major factor behind #Rape in #India is the #Bollywood which incites feeling 2 cross the moral limits #BanBollywood

Other: Question of the day, "Is there any law protection of rape victim?"

Fact Reporting: Ohio high school rape convict released -USA Today http://...

Text Processing

- Spell checking
- Word-breaking
- Part-of-speech tags
- Removal of non-ascii characters
- Screen name removal
- *Stopword removal
- Hyperlink removal
- *Punctuation removal
- *Stemming
- *These techniques were proposed but not applied to the dataset



Classification Performance

Two-stage classifying model:

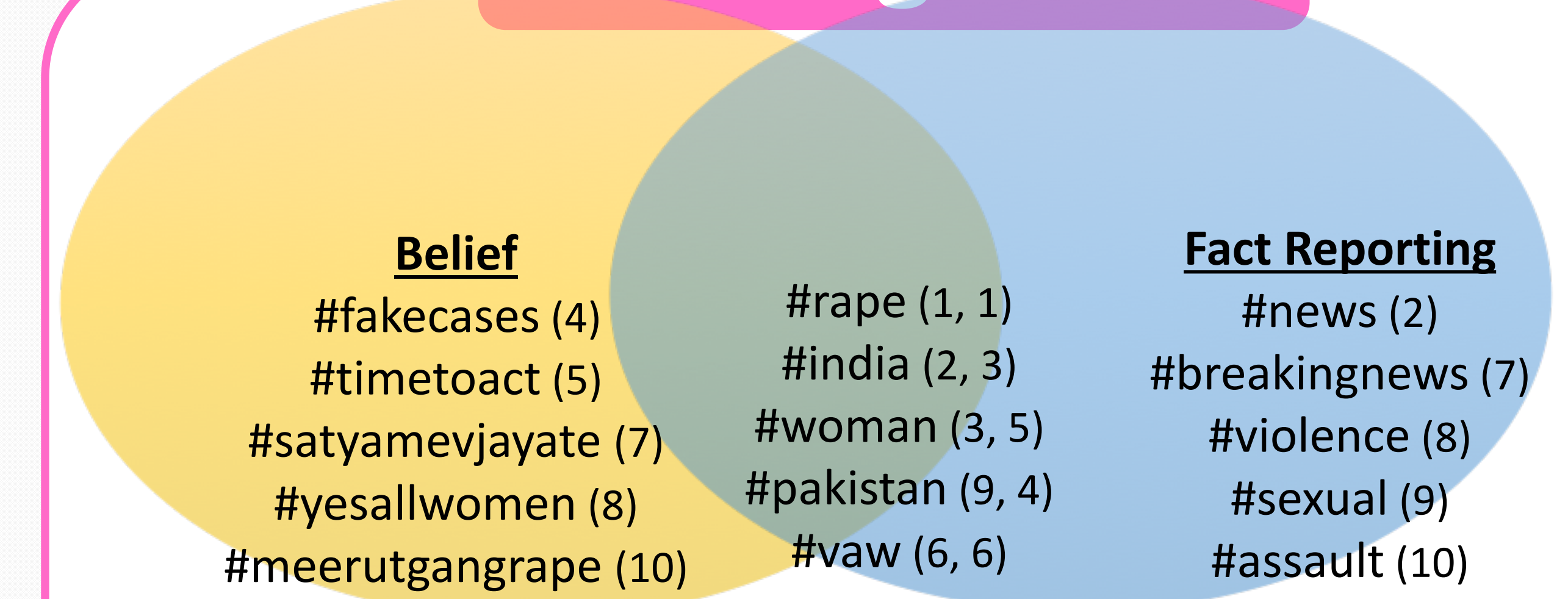
- one classifier is trained to detect tweets related to the GBV domain
- second classifier for the pragmatic function detection of each GBV related tweet

Feature Set	Precision		Recall		F-Measure	
	MNB	SVM	MNB	SVM	MNB	SVM
1 N-gram (N=1)	0.652	0.679	0.634	0.693	0.638	0.676
2 N-gram (N=2)	0.619	0.623	0.552	0.636	0.572	0.621
3 N-gram (N=3)	0.597	0.613	0.398	0.599	0.446	0.574
4 N-gram (N=1,2,3)	0.629	0.700	0.587	0.695	0.599	0.679
5 N-gram (N=1,2,3) + POS	0.638	0.672	0.592	0.693	0.607	0.672

	Belief	Fact Reporting	Other	Total Tweets
Relevant	264,390	111,753	4783	380,926
Non-relevant	-	-	-	7,650

Annotator \ Model	Fact Reporting	Belief
Fact Reporting	69	31
Belief	12	88

Insights



Hashtag Ranking:

- Belief hashtags are more specific to the GBV domain and indicate a desire to resist GBV
- Fact reporting hashtags are more generic, such that they are often used to broadcast facts to a mass audience

	Belief (B)	Fact Reporting (FR)
Analytic	72.075	93.953
Pronouns	7.983	1.889
Cognitive processes	7.003	3.436
Swear words	0.495	0.098
Netspeak	3.752	2.433
Assent	2.220	1.838
All Punctuation	52.561	67.083

LIWC scores takeaways:

- The **analytic** scores for the two pragmatic function confirms that fact reporting tweets reflect formal communication, whereas, belief tweets are more informal and personal.
- The higher **swear words** score for belief tweets indicates that belief tweets more frequently contain swear words when compared to fact reporting tweets.
- The lower **netspeak** score for fact reporting tweets in demonstrates that these tweets are less likely (than belief tweets) to contain words like "lol" and "4ever".

Brainstorm

Please tell me your interest and your thoughts about this study?

- How can we better study Gender-Based Violence?
- How can the detection of pragmatic function improve?

Email me @ goonmeet.bajaj@gmail.com

Project website:

[http://wiki.knoesis.org/index.php/Gender-%C2%ADbased_violence_\(GBV\)](http://wiki.knoesis.org/index.php/Gender-%C2%ADbased_violence_(GBV))

