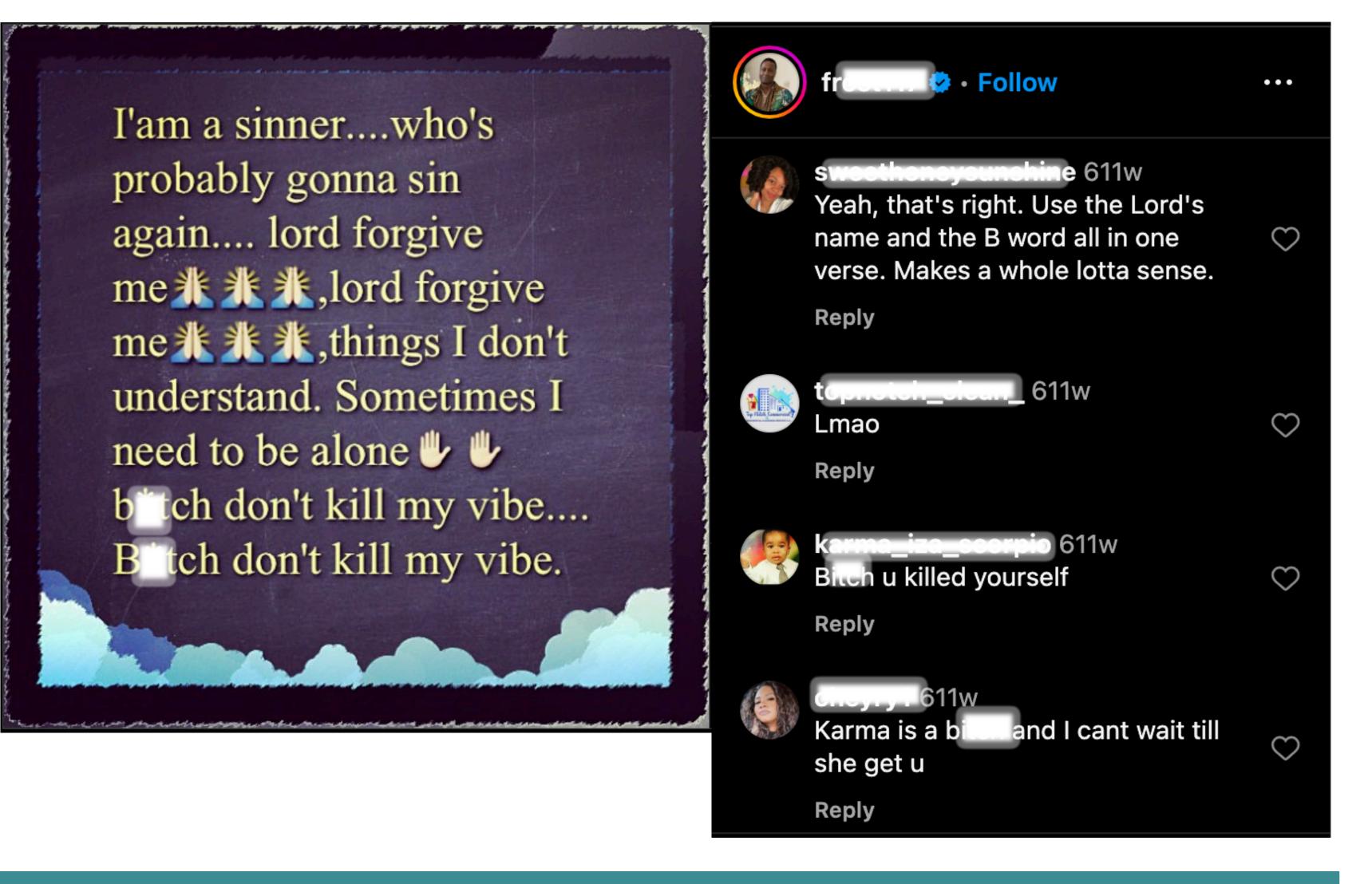


## Visual BullyBlocker: Extending Cyberbullying Detection to Images

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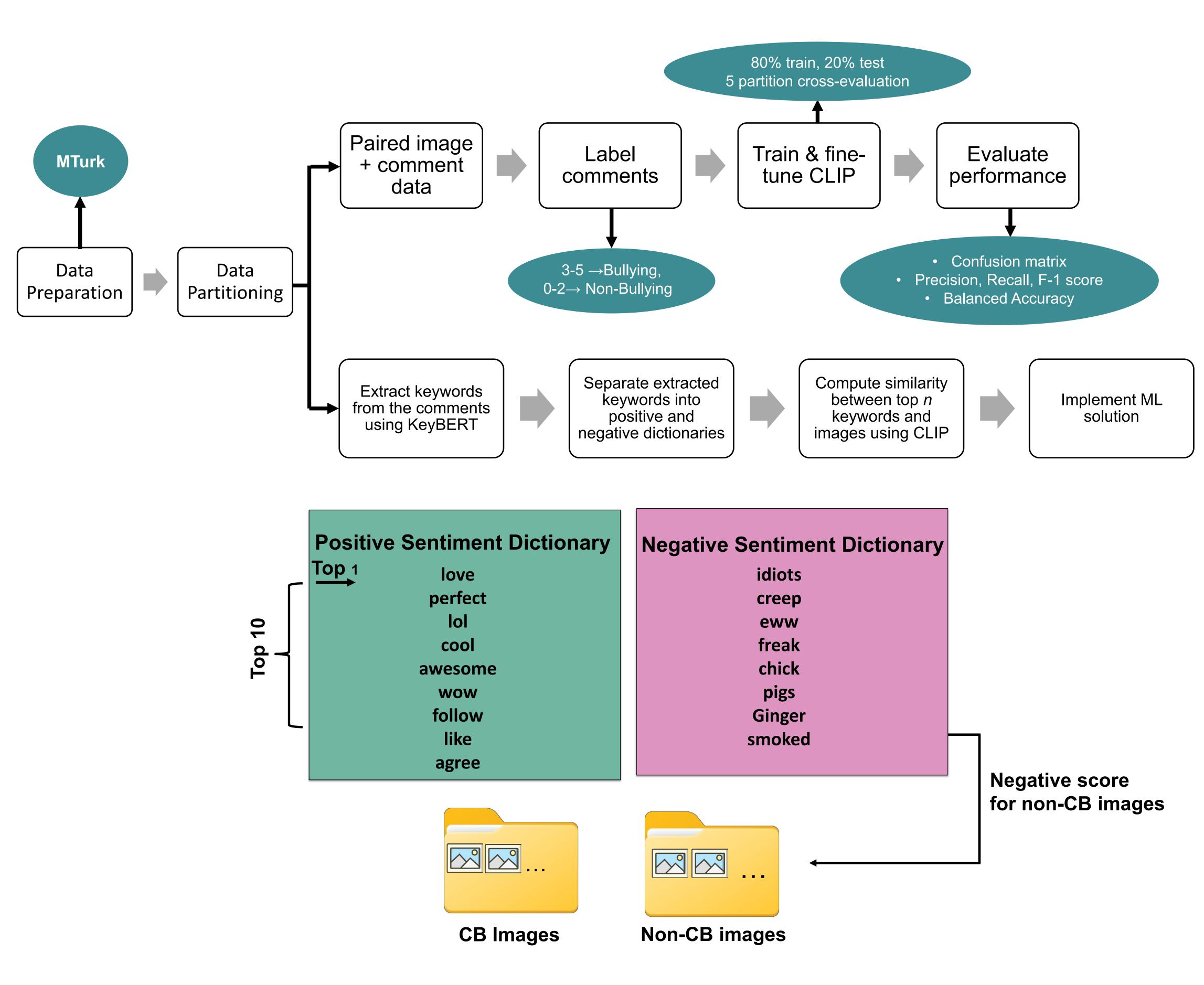
#### Introduction



### Background & Objectives

- BullyBlocker is a prior development that detects cyberbullying by analyzing social media text.
- Use CLIP to analyze paired Instagram comments and images, identifying bullying with both visual and textual signals.
- Develop and refine a sentiment analysis-driven approach for detecting cyberbullying in images.

#### Methods



#### Results

#### Method 1: Mean Evaluation Metrics (± Std Dev) Confusion Matrix 0.90 г 0 0.85 Bullying 845 13930 0.80 0.70 644 1412 0.65 Not Bullying (0) Bullying (1) Precision Recal F-Score **BAcc** Predicted Labels

#### Method 2:

	CB Images		Non-CB Images	
- 12000	Positive Score	Negative Score	Positive Score	Negative score
- 10000	22.75	9.59	28.74	4.11
- 8000	Future Work			
- 6000	<ul> <li>Perform multimodal</li> <li>classification instead of</li> </ul>			
- 4000	binary classification			
- 2000	o Incorporate insights from			
	psychological research on			
	language patterns			

#### References

- Y. Silva, D. Hall, C. Rich. BullyBlocker: Toward an Interdisciplinary Approach to Identify Cyberbullying. Social Network Analysis and Mining (SNAM), 8, 1, 2018. DOI: 10.1007/s13278-018-0496-z.
- A. Radford, J.-W. Kim, C. Hallacy, A. Ramesh, G. Goh, S, Agarwal, G. Sastry, A. Askell, P. Mishkin, J. Clark., et al. Learning Transferable Visual Models From Natural Language Supervision. International Conference on Machine Learning (ICML), 2021.
- M. Grootendorst, Keybert: Minimal keyword extraction with BERT, 2020, http://dx.doi.org/10.5281/zenodo.4461265.

# BullyBlocker

#### Acknowledgments