Investigating Local Media Representations of Police Violence in the United States

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Research Question: *How do local news sources frame domestic police shootings?*
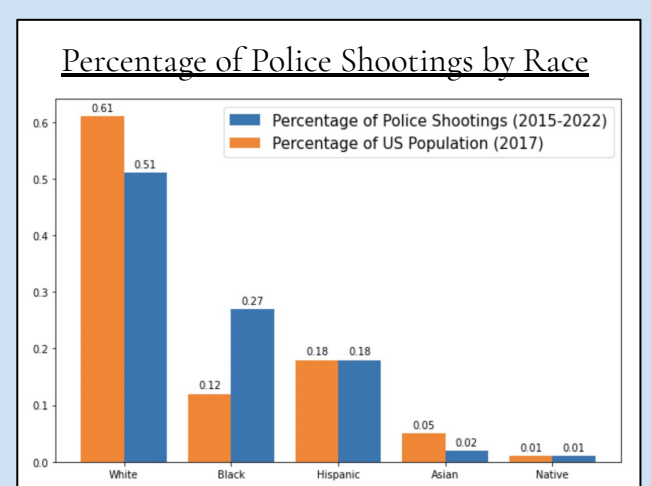
1: Goal & Motivation

- Analyze objectivity of local reports of US police shootings
- Where are the differences in reporting based on geographic location?
- What trends/patterns can we identify from existing police shooting data?

2: Data Summary & Overview

Percentage of Police Shootings by Race

- Washington Post Police Shooting Database
- Collects manner of fleeing, race, age, gender, armed, body camera, longitude, latitude, etc.
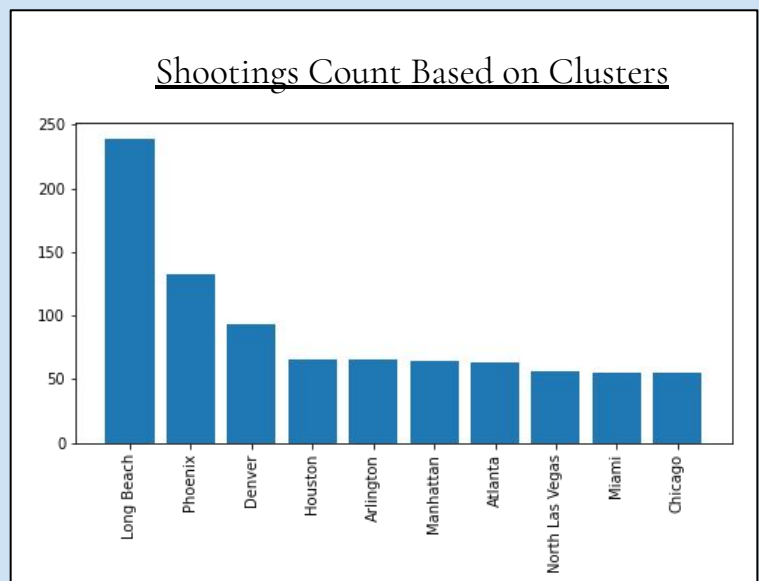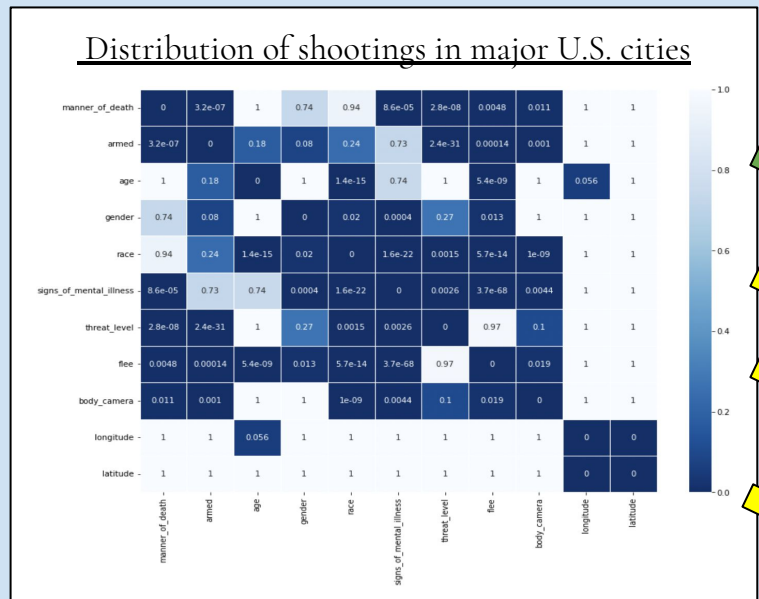- Data contains disproportionate ratio of minorities

3: Methods

DBScan Shooting Centers
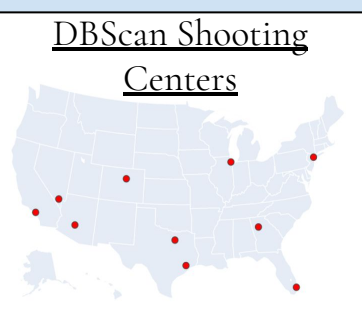
DBScan, Random Forests, Information Theory, Chi-Squared TOI, Framing Analysis (coref. res.), and Named Entity Recognition

4: Results - Part 1: Shooting Data Exploration

Distribution of shootings in major U.S. cities

Shootings Count Based on Clusters

5: Results - Part 2: Local News Article Analysis

Framing Devices used in Most Prevalent Cities

Victim Frame	Los Angeles	Phoenix	Cohen's D
Official report ***	0.657	0.893	0.572
Attack ***	0.29	0.523	0.491
Age ***	0.592	0.804	0.466
Armed ***	0.392	0.579	0.381
Legal language **	0.803	0.856	0.14
Video **	0.063	0.098	0.133
Fleeing *	0.246	0.302	0.126
Gender *	0.636	0.692	0.118
Unarmed	0.037	0.04	0.015
Mental illness	0.084	0.072	-0.046
Interview	0.606	0.576	-0.06
Systemic ***	0.173	0.111	-0.174
Criminal record ***	0.611	0.497	-0.232
Race ***	0.252	0.078	-0.466

Frame Ordering in Most Prevalent Cities

Victim Frame	Los Angeles Ratio	Phoenix Ratio	# Los Angeles	# Phoenix	Cohen's D
Gender ***	0.702	0.784	589	472	0.27
Video	0.241	0.301	58	67	0.236
Unarmed	0.323	0.384	34	27	0.193
Legal language *	0.473	0.525	744	584	0.152
Attack *	0.274	0.298	269	357	0.134
Armed *	0.324	0.352	363	395	0.113
Fleeing	0.277	0.293	228	206	0.082
Criminal record *	0.302	0.318	566	339	0.068
Official report	0.206	0.206	608	609	0.005
Mental illness	0.28	0.265	78	49	-0.066
Interview	0.231	0.2	561	393	-0.182
Systemic ***	0.371	0.255	160	76	-0.45
Age ***	0.551	0.399	548	548	-0.536
Race ***	0.475	0.228	233	53	-0.997

6: Results (cont.)

Information Gain when Classifying Black Shooting Victims
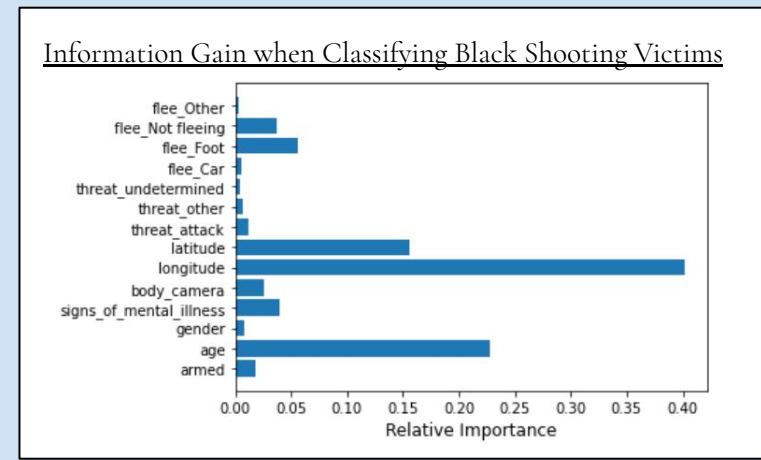
7: Future Work

- Expand to include countries outside of US / What role does culture play in police violence reporting?
- Expand to include all types of police violence, not just shooting
- Add a factor of police department funding to shooting analysis

8: References

[1] Ziems, C.; and Yang, D. 2021. To protect and to serve? analyzing entity-centric framing of police violence. *Findings of the Association for Computational Linguistics: EMNLP 2021* doi:10.18653/v1/2021.findings-emnlp.82.
[2] 2020. Fatal force: Police shootings database. URL https://www.washingtonpost.com/graphics/investigations/ police-shootings-database/.
[3] Miller, L. 2015. Why cops kill: The psychology of police deadly force encounters. *Aggression and Violent Behavior* 22: 97–111. doi:10.1016/j.avb.2015.04.007
[4] Caliskan, A.; Bryson, J. J.; and Narayanan, A. 2017. Semantics derived automatically from language corpora contain human-like biases. *Science* 356(6334): 183–186. doi: 10.1126/science.aal4230.
[5] Ester, M.; Kriegel, H.-P.; Sander, J.; Xu, X.; et al. 1996. A density-based algorithm for discovering clusters in large spatial databases with noise. In *kdd*, volume 96, 226–231.