

Bias Detection Report

Ethnicity Distribution Bias Report

Dataset Analyzed: COMPAS

Feature Examined: Ethnic_Code_Text

Bias Type Detected: Distribution

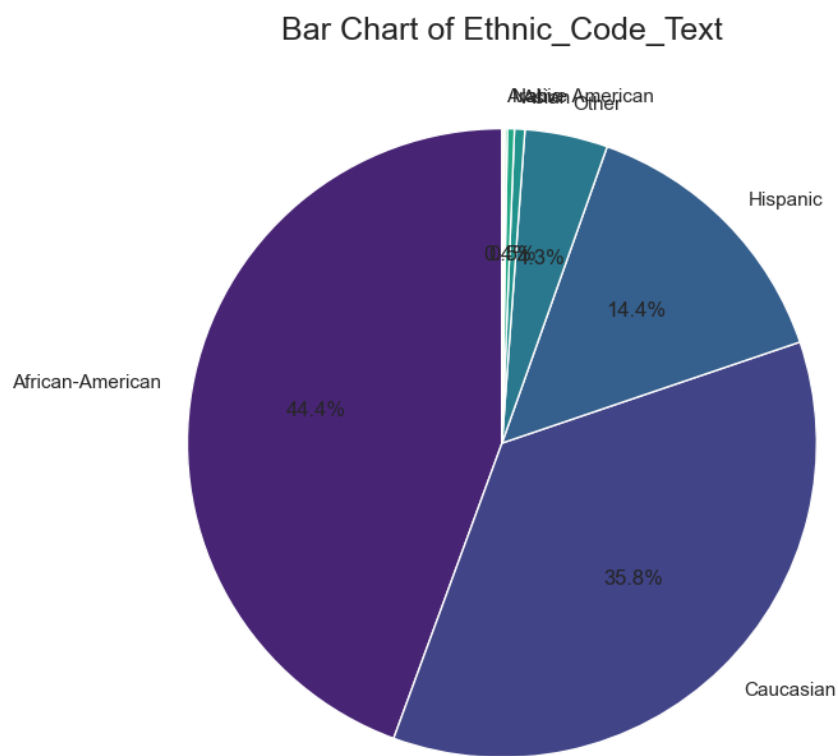
Tools and Methods Used:

- Shannon Entropy and Balance Metric
- Max/Min Ratio
- Normalized Entropy
- Gini Index
- Relative Risk

Findings:

1. Shannon Entropy: 1.743
2. Balance Metric: 0.550 (Level 4)
3. Max/Min Ratio: 692.77 (Level 5)
4. Normalized Entropy: 0.550 (Level 4)
5. Corrected Gini Index: 0.652
6. Adjusted Gini Index: 0.734 (Level 3)

7. Relative Risks indicate extreme bias with a normalized bias score of 692.77 (Level 5).



Conclusion and Recommendations:

The dataset shows significant to extreme bias in the distribution of ethnic groups, with certain groups being overrepresented or underrepresented. Consider re-sampling or collecting additional data to ensure a balanced representation. Exercise caution when using this dataset for analysis.