

Bias Detection Report

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Dataset Analyzed:

- Dataset: COMPAS
- Feature: Agency_Text

Bias Type:

- Distribution

Analysis Results:

1. **Shannon Entropy and Balance Metric:**

- Balance Metric: 0.4938
- Shannon Entropy: 0.9876

2. **Max/Min Ratio:**

- Max/Min Ratio: 334.15

3. **Gini Index:**

- Corrected Gini Index: 0.4455
- Adjusted Gini Index: 0.5940

4. **Chi-Square Test:**

- Chi-Square Statistic: 74112.58
- p-value: 0.0

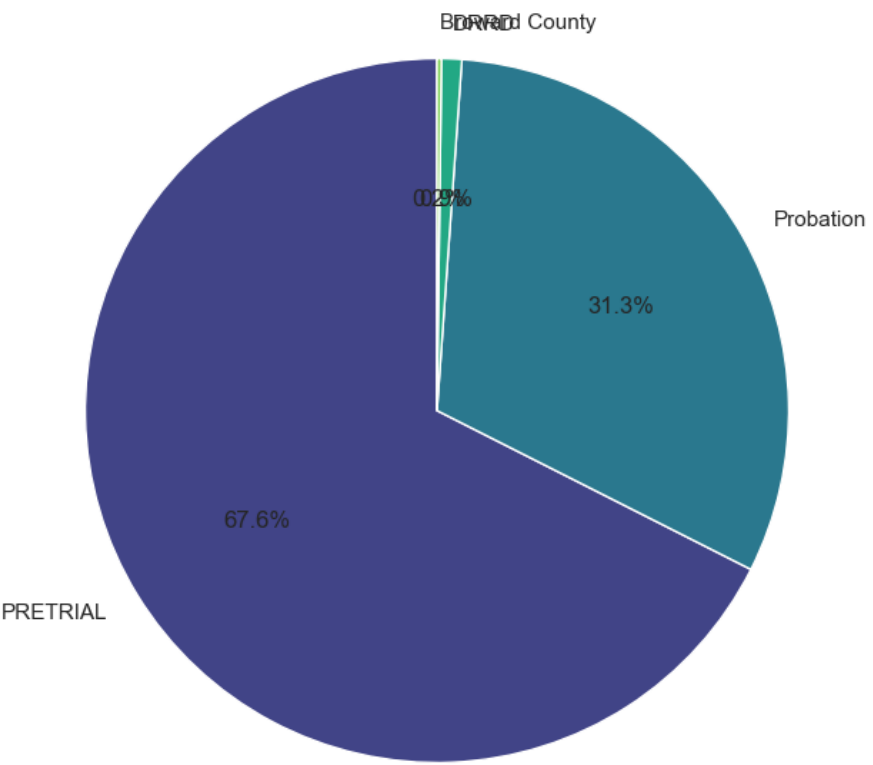
5. **Kullback-Leibler Divergence:**

- KL Divergence: 0.7018

Visualization:

The pie chart below illustrates the distribution of assessments across different agencies.

Pie Chart of Agency_Text



Summary:

The analysis revealed a significant distribution bias in the `Agency_Text` feature. One agency dominates the assessments, as evidenced by the high max/min ratio and KL divergence. The Chi-Square test confirmed a significant deviation from uniform distribution.

Recommendations:

Given the significant bias, it may be necessary to investigate the reasons behind one agency's dominance in assessments. Consider strategies to balance the distribution if fairness in assessment distribution is a goal.