

Bias Detection Report

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Dataset Analyzed

The dataset analyzed is from the file `source_files/Statlog.csv`.

Feature Examined

The feature examined for bias is `foreign worker`.

Bias Type

The bias type detected is `Distribution`.

Tools Used and Results

1. **Shannon Entropy and Balance Metric**

- Shannon Entropy: 0.2284

- Balance Metric: 0.2284

- Bias Level: Extreme Bias

2. **Max/Min Ratio**

- Max/Min Ratio: 26.03
- Bias Level: Extreme Bias

3. **Normalized Entropy**

- Normalized Entropy: 0.2284
- Bias Level: Extreme Bias

4. **Gini Index**

- Corrected Gini Index: 0.0729
- Adjusted Gini Index: 0.1458
- Bias Level: Extreme Bias

5. **Relative Risk**

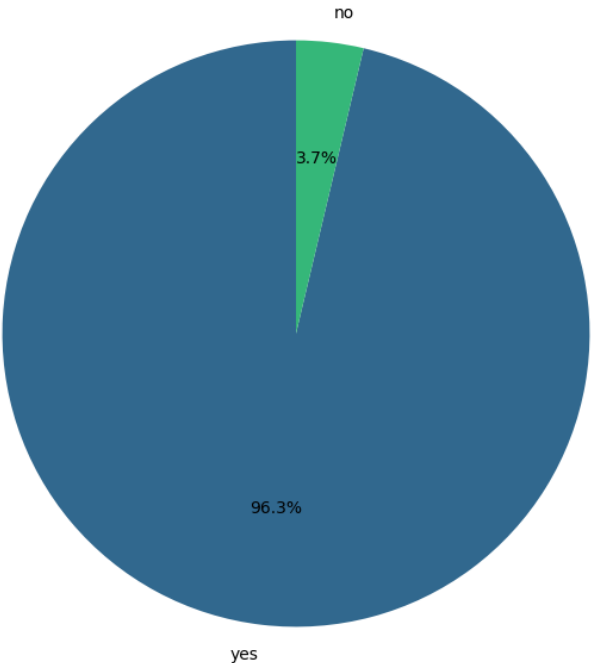
- Relative Risks: `yes`: 1.926, `no`: 0.074
- Normalized Bias Score: 26.03
- Bias Level: Extreme Bias

Visualizations

The following pie chart illustrates the distribution of the `foreign worker` feature:

Pie Chart of Foreign Worker Distribution

Pie Chart of foreign worker



Additional Explanation

The analysis reveals extreme bias in the `foreign worker` feature. The significant disparity in the presence of foreign workers suggests potential issues in credit access and representation.

Recommendations

- **Data Usage:** Consider the bias while using this dataset for credit assessments.
- **Further Investigation:** Investigate the causes of this disparity and potentially rebalance the

dataset to promote fairness.

Pie Chart of foreign worker

