

# Bias Detection Report

## Analysis of Occupation Distribution Bias in Dataset: Findings and Conclusions

1. Chi-Square Test: The Chi-Square statistic of 8786.32 with a p-value of 0.0 indicates significant deviation from expected distribution, suggesting certain occupations dominate.
2. Shannon Entropy & Balance: Balance Metric of 0.90 indicates minimal bias, suggesting a fairly even distribution.
3. Max/Min Ratio: The extreme Max/Min Ratio of 460.0 indicates severe distribution bias, with certain occupations significantly more prevalent.
4. Normalized Entropy: A Normalized Entropy of 0.90 further supports minimal bias, indicating a fairly even distribution.
5. Gini Index: An Adjusted Gini Index of 0.97 suggests minimal bias, highlighting a slightly uneven distribution.
6. Relative Risk: Normalized Bias Score of 460.0 suggests extreme bias, highlighting significant variation between occupation categories.

Overall, the results suggest an overall Level 5 Extreme Bias in the distribution of occupations, despite some methods indicating minimal bias.

