

Bias Detection Report

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Task

Determine if race and occupation are connected in any meaningful way using the dataset from ``source_files/Adult.csv``.

Analysis Methods

1. **Chi-Square Test**: Evaluated the association between race and occupation.
2. **Cramér's V**: Assessed the strength of the association between the two categorical variables.
3. **Elift**: Evaluated the correlation using extended lift measures.

Results

1. **Chi-Square Test**:

- Chi-Square Statistic: 850.87
- p-value: 1.609e-142
- Bias Level: Level 5 (Extreme Bias)

2. **Cramér's V**:

- Value: 0.0808

- Bias Level: Level 1 (No Bias)

3. **Elift**:

- Max Elift: 11.63

- Bias Level: Level 5 (Extreme Bias)

Conclusion

The dataset shows an extreme bias between race and occupation according to the Chi-Square Test and Elift, while Cramér's V indicates a weak association. Overall, the bias level is determined to be **Level 5 (Extreme Bias)**.