

# Bias Detection Report

## Bias Detection Report: Gender and Occupation Analysis

This report investigates the correlation bias between gender and occupation in the provided dataset.

The analysis includes statistical tests and visualizations to assess the presence and extent of bias.

1. Bias Type: Correlation
2. Relevant Features: sex and occupation
3. Bias Level: Moderate Bias (Level 3)

### Chi-Square Test Results:

- Chi-Square Statistic: 5863.75
- p-value: 0.0 (indicating significant association)
- Degrees of Freedom: 14

### Cramér's V Result:

- Cramér's V: 0.424 (indicating a moderate correlation bias)

The stacked bar chart above illustrates the distribution of occupations across genders, highlighting discrepancies in representation.

The heatmap visualizes observed versus expected frequencies for occupations, providing insight into potential areas of bias.