

# Bias Detection Report

## Bias Detection Report for Occupation and Income Features

This report analyzes the correlation bias between the 'occupation' and 'income' features from the Adult dataset.

### 1. Chi-Square Test:

- Chi-Square Statistic: 4031.97

- p-value: 0.0

- Conclusion: The relationship between occupation and income is significant, indicating a correlation bias.

### 2. Wasserstein-2 Distance:

- Analysis of pairwise occupation distances showing varying degrees of income distribution differences.

### 3. HSIC (Hilbert-Schmidt Independence Criterion):

- HSIC Value: 2.668e-17

- Conclusion: The bias level between occupation and income is not significant.

## Overall Bias Level: Level 3 (Moderate Bias)

- The analysis indicates a moderate correlation bias based on the Chi-Square test, with varying results from other methods.

