

# Bias Detection Report

Bias Detection Report: Age and Income Correlation Analysis

Dataset Analyzed: source\_files/Adult.csv

Features Examined:

- Age (Numerical)
- Income (Categorical)

Types of Bias Detected: Correlation Bias

Tools and Methods Used:

- HSIC Method for Correlation Detection
- SPD Method for Distribution Bias Analysis

Results:

- HSIC Value:  $1.89e-11$  (Indicating No Significant Correlation Bias)
- SPD Values:
  - Young: 0.169
  - Middle: 0.370
  - Old: 0.201

Interpretation:

- HSIC indicates no significant correlation between age and income.

- SPD shows minimal to moderate variation in income distribution across age categories.

Recommendations:

- The dataset is suitable for use without concerns for significant correlation bias.
- Consider the minimal to moderate distribution bias in specific age-related analyses.