

Bias Detection Report

Analysis of Correlation Between Age and Income

This report presents the analysis of the correlation between age and income in the Adult dataset.

The objective was to determine if older individuals tend to earn more.

Data Preprocessing

The dataset was cleaned to ensure no missing or invalid values in the 'age' and 'income' columns.

Leading spaces in column names were corrected.

Analysis Results

- **Overall Mean Age**: 38.58
- **Overall Std Age**: 13.64
- **Mean Age for <=50K**: 36.78
- **Std Age for <=50K**: 14.02
- **Mean Age for >50K**: 44.25
- **Std Age for >50K**: 10.52
- **Pearson Correlation Coefficient**: 0.234
- **T-Test Result**: Statistic = -43.44, P-Value = 0.0

The Pearson correlation coefficient indicates a moderate positive correlation between age and income.

Conclusion

The analysis shows a minimal bias in the correlation between age and income. Older individuals tend to earn more, as indicated by the higher mean age for the >50K income group. The correlation bias level is Level 2, suggesting minimal bias.