

# Bias Detection Report

## Bias Detection and Analysis Report

### Dataset Analyzed

The dataset analyzed is located at 'source\_files/Statlog.csv', and the relevant extracted features are 'Job' and 'Credit risk (Good/Bad)'.

### Bias Type

The type of bias detected is 'Correlation' between two categorical features.

### Relevant Features

- Job
- Credit risk (Good/Bad)

### Bias Analysis Methods and Results

#### 1. \*\*Chi-Square Test\*\*

- \*\*Chi-Square Statistic\*\*: 1.885

- **p-value**: 0.597

- **Conclusion**: No significant association exists between the job type and credit risk classification.

## 2. **Wasserstein-2 Distance**

- **Distance Value**: 0.574

- **Conclusion**: Indicates some distributional differences, but not substantial.

## 3. **Cramér's V**

- **Value**: 0.043

- **Conclusion**: Confirms a very weak association supporting the findings from the Chi-Square test.

## **Visualization**

A stacked bar chart visualizing the relationship between job type and credit risk classification is provided.

## **Conclusion**

Based on the analysis, the features in this dataset show no significant bias. The metrics are close to

the ideal state, allowing confident use of the dataset.

