

# Bias Detection Report

## Bias Detection Report

### Dataset Analyzed

- **Dataset Path**: source\_files/Student Performance.csv
- **Relevant Feature**: "higher" (Indicating students' plans for higher education)

### Bias Type

- **Distribution**

### Results from Various Tools:

#### 1. **Shannon Entropy and Balance**:

- **Shannon Entropy**: 0.289
- **Balance**: 0.289
- **Bias Level**: Level 5

#### 2. **Max/Min Ratio**:

- **Ratio**: 18.75

- **Bias Level**: Level 4

3. **Entropy**:

- **Normalized Entropy**: 0.289
- **Bias Level**: Level 5

4. **Gini Index**:

- **Corrected Gini Index**: 0.0999
- **Adjusted Gini Index**: 0.1999
- **Bias Level**: Level 4

5. **Relative Risk**:

- **Yes**: 1.8987
- **No**: 0.1013
- **Normalized Bias Score**: 18.75
- **Bias Level**: Level 5

## Detailed Summary of Findings

- **Bias Type**: Distribution
- **Relevant Feature**: "higher" (Plans for higher education)
- **Overall Bias Level**: Extreme bias in the distribution of the "higher" feature, with significant deviations from uniform distribution. The Shannon Entropy, Balance, and Gini Index all highlight this bias, supported by a high max/min ratio and relative risk score.

Recommendations

- Consider the implications of this bias in any analysis or decision-making processes.
- If possible, further investigate the reasons behind this uneven distribution and consider corrective actions or adjustments in the dataset.



