

# Bias Detection Report

## Bias Detection Report

### Dataset Analyzed

- **File Path:** source\_files/Student Performance.csv
- **Feature Analyzed:** reason (reasons for choosing schools)

### Bias Type

- **Type:** Distribution

### Detection Methods and Results

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

- **Balance:** 0.9332
- **Shannon Entropy:** 1.8664

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

- **Ratio:** 4.0278

#### 3. **Gini Index**

- **Corrected Gini Index:** 0.7091

- **Adjusted Gini Index:** 0.9455

#### 4. **Jensen-Shannon Divergence**

- **Divergence:** 0.0253

## Interpretation and Recommendations

- The data exhibits a minimal bias level, suggesting a fairly even distribution of reasons across categories.

- **Data Usability:** Suitable for further analysis with minimal adjustments.

- **Action Points:** Monitor the slight dominance detected by the max/min ratio in decisions sensitive to specific categories.

