Bias Detection Report

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Dataset

- **File**: MIMIC-IV.csv

Features Analyzed

- **Relevant Features**: `patient_race`, `patient_insurance`

Bias Type

- **Correlation**

Detection Methods and Results

- **Cramér's V**: 0.2645 (Moderate Bias)

- **Elift**: 14.2237 (Significant Bias)

- **Statistical Parity (Z-score)**: 3.6364 (Significant Bias)

- **Chi-Square Test**:

  - **Chi-Square Statistic**: 151.2442

- **p-value**: 1.075e-10 (Significant Bias)

Bias Analysis

Based on the analysis, the features `patient_race` and `patient_insurance` exhibit significant bias, indicating a strong association between race and insurance type. This was supported by various correlation metrics and statistical tests. The presence of significant bias suggests that certain racial groups may be disproportionately associated with specific insurance types.

Recommendations

Considering the detected bias, it is advisable to investigate the underlying causes. Adjustments may be needed to ensure fairness in decision-making processes involving this dataset.