Bias Detection Report

Bias Detection Report

Dataset Analyzed

The dataset analyzed is MIMIC-IV with a focus on the features 'patient_age' and 'admission_type'.

Type of Bias Detected

This analysis focused on detecting correlation bias between a numerical feature (age) and a categorical feature (admission type).

Tools and Methods Used

- Hilbert-Schmidt Independence Criterion (HSIC)

- Z-score Analysis

- Cohen's d Calculation

- Standardized Difference

Results and Bias Extent

- **HSIC Value:** 9.75e-07, indicating no significant correlation bias.

- **Z-scores:** Generally close to zero, with the highest being 0.47 for 'AMBULATORY OBSERVATION'.

- **Cohen's d:** The highest value is 0.63, suggesting small to medium effect size.

- **Standardized Difference:** The highest value is 1.37, indicating minimal bias.

Conclusion

Based on the analysis, there is minimal bias in how age affects admission type. The dataset is considered reliable with respect to age-related bias in decision-making.