

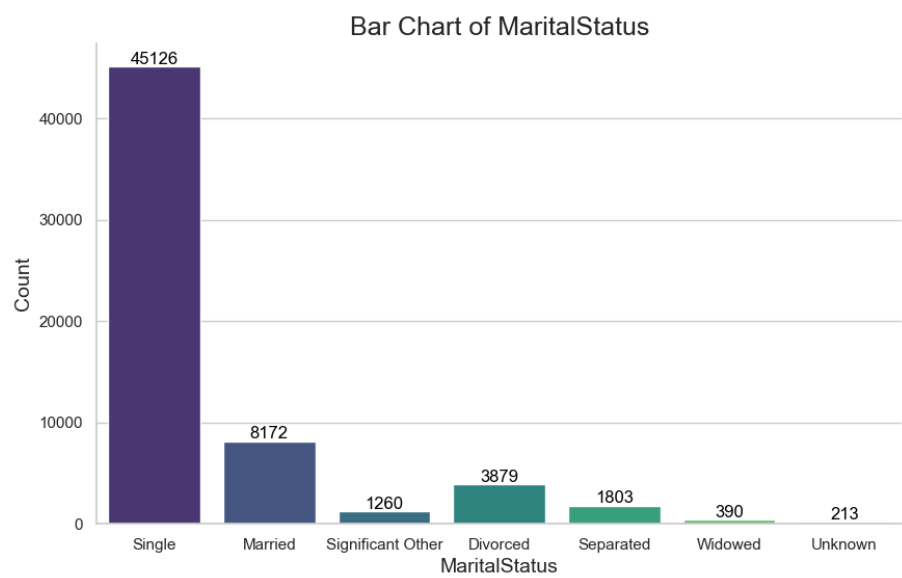
# Bias Detection Report

## Bias Detection Report

This report analyzes the potential biases in the 'MaritalStatus' feature of the COMPAS dataset. The analysis focuses on both distribution and correlation biases.

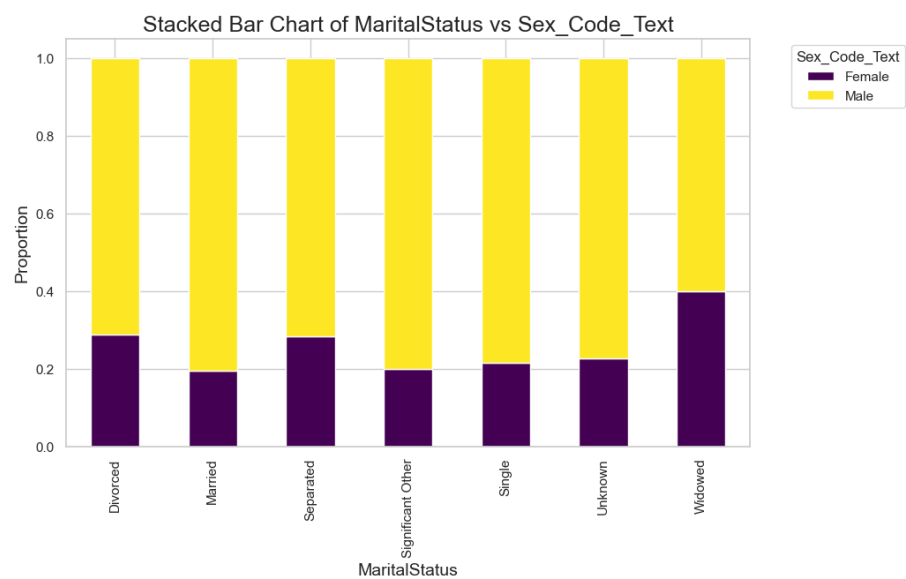
### 1. Distribution Bias Analysis

The distribution of 'MaritalStatus' was analyzed using the Chi-Square test and Jensen-Shannon Divergence. The Chi-Square test indicated a significant deviation from a uniform distribution with a Chi-Square Statistic of 183433.91 and a p-value of 0.0. The Jensen-Shannon Divergence value was 0.496, suggesting a moderate bias.



### 2. Correlation Bias Analysis

A Chi-Square test for correlation between 'MaritalStatus' and 'Sex\_Code\_Text' revealed a Chi-Square Statistic of 263.19 and a p-value of 6.20e-54, indicating a significant correlation bias.



### 3. Conclusion

The analysis shows that the 'MaritalStatus' feature exhibits significant distribution and correlation biases. The distribution bias is categorized as Level 5 (Extreme Bias) based on Chi-Square results, while the Jensen-Shannon Divergence suggests a Level 3 (Moderate Bias). The correlation bias between 'MaritalStatus' and 'Sex\_Code\_Text' is severe, categorized at Level 5 (Extreme Bias). Further analysis might be required to explore the implications of these biases in the dataset's application context.