

Bias Detection Report

Analysis of Studytime Distribution Bias

Dataset Analyzed: Student Performance

Feature Examined: studytime

Bias Type: Distribution Bias

Results Summary

1. ****Max/Min Ratio Method****:

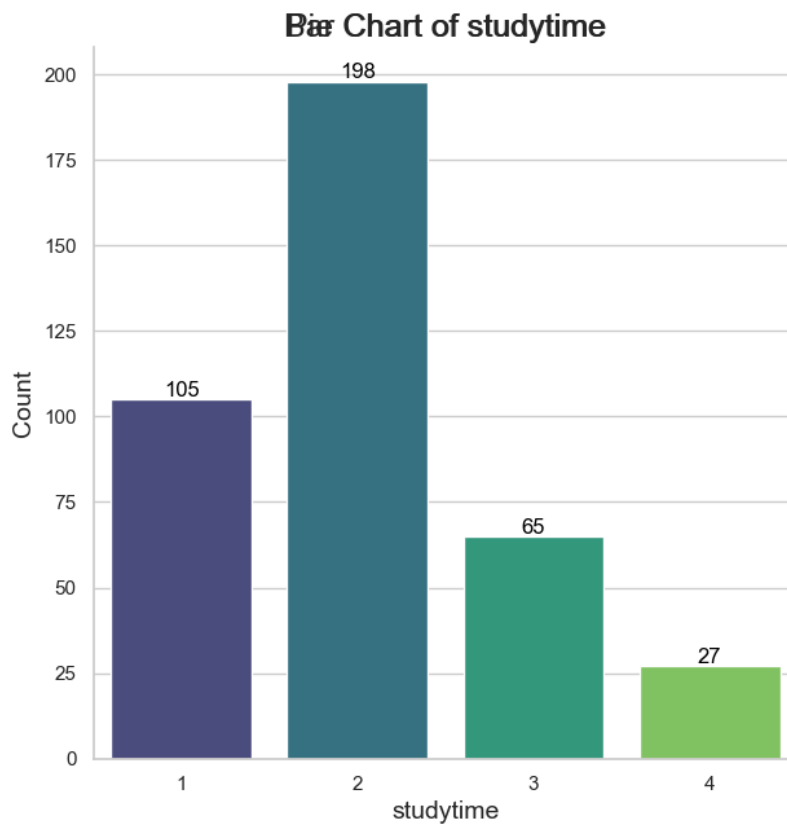
- Infinite ratio, indicating "Extreme Bias."
- Extreme imbalance with some bins having zero frequency.

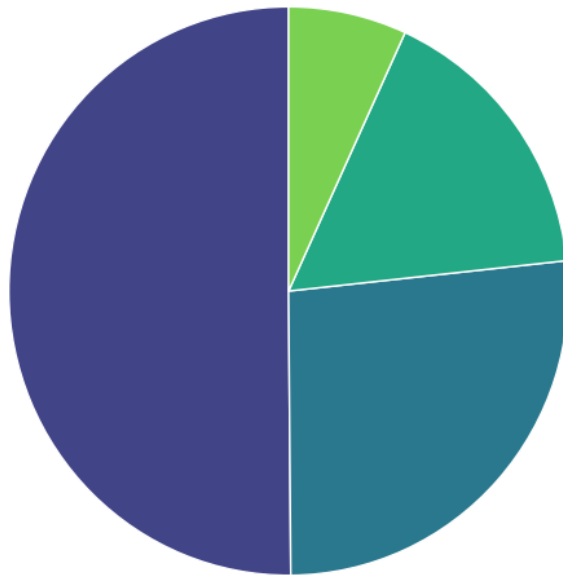
2. ****Shannon Entropy Method****:

- Entropy of 1.18 vs. max entropy 2.48, indicating "Extreme Bias."
- Significant disorder and imbalance in distribution.

3. **Gini Coefficient Method**:

- Computation error, but other methods suggest a high level of bias.





Conclusion

The studytime feature exhibits an extreme level of distribution bias, as indicated by the analyses conducted. The visualizations further illustrate the imbalance in the distribution.

Recommendations:

- Consider re-evaluating the data collection process for studytime to ensure a more balanced distribution.