

Peer Review

Review of: "Chronic disease treatment default prediction, potential benefits with applied random sampling optimization techniques"

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This study focused on predicting chronic disease treatment default and evaluating the effectiveness of random sampling optimization techniques in addressing dataset class imbalance. Class imbalance, a common issue in real-world applications like fraud detection and spam filtering, often leads to the underrepresentation of minority class contributions in predictive modeling. To mitigate this, various re-sampling techniques were applied, including random over-sampling, which duplicates minority class examples, and random under-sampling, which removes majority class instances. Additionally, the Synthetic Minority Over-sampling Technique (SMOTE) was utilized to generate synthetic samples for the minority class. These methods aimed to improve model performance by ensuring a balanced class distribution. The comparative assessment demonstrated that random sampling techniques significantly impact model performance. Despite potential increases in false alarms, high prediction accuracy and ROC-AUC scores were achieved, confirming the effectiveness of these techniques in enhancing predictive modeling for chronic disease treatment default classification. Although this paper is appropriate, there are some points for improvement.

* Represent more details about results and quantitative findings in the abstract. Rewrite the abstract in structured form.

* Improve the literature review with more recent studies, and add a comparison table in this section to compare the literature with this study based on gaps in the literature (show the role of this study in closing some gaps). Add research flow sections.

* Present more details about the proposed model in this study and the reasons behind this model.

* Present a statistical test to determine whether the proposed methods and other methods are statistically significantly different. Add more case studies to validate your results.

I hope these comments improve the quality of this paper in the next revisions.

Declarations

Potential competing interests: No potential competing interests to declare.