Review of: "Bank Customer Churn Prediction Using SMOTE: A Comparative Analysis"

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Potential competing interests: No potential competing interests to declare.

This paper proposes an approach to address the issue of customer churn prediction by utilizing two techniques: the SMOTE technique for handling the imbalanced dataset, and the genetic algorithm for feature selection. For classification, they used many machine learning models, including RF, KNN, ANN, and Adaboost. Among these algorithms, KNN demonstrates superior performance in terms of accuracy (96%), precision (96%), and F-measure (96%). The paper also compares the proposed approach with existing models that have used the same dataset; based on the obtained results, they concluded that their strategy outperforms these previous models. Overall, the structure of the manuscript is good. I have some major concerns, which are given below:

- 1. The authors should clearly emphasize the contribution of the study.
- 2. The authors should justify why they used a genetic algorithm instead of other algorithms such as particle swarm optimization or differential evolution…..
- 3. The novelty of this work is poor; please provide evidence of its novelty.
- 4. The authors should justify why they chose to use the SMOTE technique instead of other methods such as ADSYN or employing deep learning techniques like autoencoder or generative adversarial neural network for handling the imbalance issue.
- 5. The authors should include more results that compare different resampling techniques and feature selection methods.
- 6. The authors should revise the manuscript for language and complexity, making it more understandable.
- 7. The authors should provide more mathematical descriptions and formulations for their solution.
- 8. The presentation of the proposed solution is lacking clarity. Additional information should be incorporated, and Figure 1 should be redrawn to enhance clarity and comprehensiveness, covering the entire process.