Table 8. Confusion Matrix for JRip Classifier

JRip Classifier			
True Label	**False**	**True**	**Total**
False	2683	167	2850
True	239	244	483
Total	2922	411	3333

Table 9. Confusion Matrix for LMT Classifier

LMT Classifier			
True Label	**False**	**True**	**Total**
False	2811	39	2850
True	117	366	483
Total	2928	405	3333

Tables 8 and 9 show two distinct confusion matrices for LMT and JRip. The LMT classifier correctly classified about 91 percent of churners, while JRip correctly predicted 90 percent of churners. In short, the LMT is superior at predicting customer churn. As a result, it is the best classification model for this dataset, but the LMT is also good at classifying non-churners with 97 percent accuracy. However, it is critical to predict churners as opposed to non-churners because the company's goal is to maximise profit by focusing on churners. For non-churners, a misclassification error would have no effect on the CRM or the overall company profit.

CONCLUSION

Churn prediction is a critical issue for CRM in today's competitive telecom market in order to retain valuable customers by identifying similar groups of customers and offering competitive offers/services to the respective groups. As a result, researchers in this domain have been looking at the key churn factors in order to retain customers and solve CRM and decision maker problems.

FUTURE WORK

Because large open source CRM datasets are currently unavailable, the following improvements to the proposed work can be made if large open source CRM datasets become available in the future:

1. The selection of the algorithm's feature set is critical. With the availability of larger CRM datasets, this step of the process can be automated by creating algorithms that automatically select the best set of features and then form subsequent rules based on the feature set.
2. Partial matches generated during the process are left unprocessed due to a lack of abundant data. These are the most difficult entries to separate, and finding a suitable solution requires a large amount of data.

3. Human intervention is required to select the required entry in the case of a potential match. This intervention can be greatly reduced with the availability of a large dataset by training an algorithm to create the most up-to-date entry.

4. Multithreading would solve the problem because the algorithm is time consuming. The entire algorithm can be redesigned to run faster by dividing files into chunks and processing them in parallel.

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