

Literature Survey and References

Predicting Personal Loan Approval Using Machine Learning

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TEAM ID	NM2023TMID18548
PROJECT NAME	PREDICTING PERSONAL LOAN APPROVAL USING MACHINE LEARNING
MAXIMUM MARKS	3 MARKS

Literature Survey :-

- 1) Lizhang et al says this study proposed a novel perspective for profit-driven loan default prediction, that is, using BO to optimize the hyperparameters of CBT, and the optimization objective is innovatively set as a profit indicator (i.e., APR). The prediction performance of the proposed model is compared with ten frequently used prediction models using two datasets from Renrendai and Lending Club in two aspects: accuracy and profit. Moreover, SHAP values of input variables for the proposed model in Dataset 1 are ...
- 2) Di Gong et al says these results hold using the propensity score matching technique and the treatment effects model that account for the endogenous selection of NDBs. We also find that NDBs provide financial support for credit-rationed borrowers and play a countercyclical role during global liquidity cycles. Our study implies that NDBs address market failures in the syndicated loan market.
- 3) Aditya et al says the accuracy of these methods will also be tested using metrics like log loss, Jaccard similarity coefficient and F₁ Score. These metrics are compared to determine the accuracy of prediction. This can help banks conserve their manpower and fiscal resources by reducing the number of steps they have to take in order to check if somebody is eligible for a loan.
- 4) Amira et al says the proposed model results present the recommendation for each customer's loan granting a request to be either accepted or rejected. The proposed approach has been applied the on a loan granting dataset and

the evaluation results revealed its superiority by 92% success in reaching high accurate decisions.

- 5) Bhawana et al says that some of the various algorithms named as linear model, nonlinear models such as decision tree, SVM, and random forest which are used by banks to automate this procedure. This paper going to find a better algorithm that can be used in banks procedure in the future for the same purpose.
- 6) Sathish et al says our proposed model takes into consideration the loan grant given to people in the previous years by mining them and the mined patterns were used to train our model. Our paper, uses a machine learning model for predicting whether a loan can be approved for an applicant thereby efficiently reducing the risk involved in financial organizations or banks in the form of defaulters.
- 7) Zhiyong et al says in online lending, the credit grades provided by the lending platform mainly capture the risk of default, indicating the borrowers are 'good' or 'bad' in repayment. As early repayment before maturity is common in online lending and brings losses to investors, it is necessary for credit scoring models to capture the risk of both default and prepayment in order to support investor's profit-focused decisions, and estimate the profitability of online loan portfolios.
- 8) Ifan et al says the Enforcement of Laws in Financial Services Authority Illegal Online such as Law Enforcement and Dispute Resolution have not been fulfilled the principle of legal protection and wisdom to loaner of monetary service online that registered in Monetary Service Authority Regulations.
- 9) Shan et al says this study uses the 2019 Survey of Consumer Finances to investigate gender differences in the use of education loans. This study finds that unmarried women are more likely to hold education loans and have higher current education loan amounts compared to their male cohorts. Economic and demographic factors, such as net worth, income uncertainty and education level, are significant determinants in shaping individuals' decisions regarding education loan use. Additionally, this study discusses the implications to the individuals, financial professionals, educators, and policymakers.

- 10) Danial et al says that repayment improvements are in part due to better understanding of the terms governing federal student loans. State mandates that incorporate career research alongside personal finance education are associated with better student loan repayment than those focused only on personal finance education.
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References :-

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- 2) Gong, Di, Jiajun Xu, and Jianye Yan. "National development banks and loan contract terms: Evidence from syndicated loans." *Journal of International Money and Finance* 130 (2023): 102763.
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- 4) Idrees, Amira M., and Ayman E. Khedr. "A collaborative mining-based decision support model for granting personal loans in the banking sector." *International Journal of E-Services and Mobile Applications (IJESMA)* 14.1 (2022): 1-23.
- 5) Ghildiyal, Bhawana, Shubham Garg, and Vivek Raturi. "Analyze of different algorithms of machine learning for loan approval." *Smart Trends in Computing and Communications: Proceedings of SmartCom 2021* (2022): 719-727.
- 6) Pandimurugan, V., et al. "Random forest tree classification algorithm for predicating loan." *Materials Today: Proceedings* 57 (2022): 2216-2222.

- 7) Li, Zhiyong, et al. "The profitability of online loans: A competing risks analysis on default and prepayment." *European Journal of Operational Research* 306.2 (2023): 968-985.
 - 8) Khaq, Ifan Eldin, and Ahmad Hidayat. "The Law Enforcement Against an Illegal Online Loans Platform." *Ius Positum Journal of Law Theory And Law Enforcement* (2022): 85-98.
 - 9) Lei, Shan, and Oscar Solis. "Gender Differences in Education Loan Use Among Unmarried Americans." *Journal of Personal Finance* 21.1 (2022).
 - 10) Mangrum, Daniel. "Personal finance education mandates and student loan repayment." *Journal of Financial Economics* 146.1 (2022): 1-26.
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