≣ **Course Content**

Personal Loan Campaign - Problem Statement

Submission type	:	File Upload
Due Date	:	Apr 06, 12:00 AM MDT
Total Marks	:	60
Available from	:	Feb 29, 7:30 AM
Your Marks	:	60/60

Description ⌄

Scoring guide (Rubric) - Personal Loan Campaign Rubric ⟨ Evaluated ⟩ ⌃

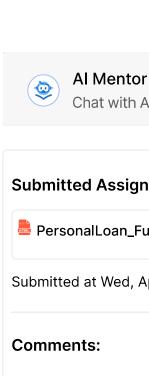| Criteria	Ratings	Points
Define the problem and perform an Exploratory Data Analysis - Problem definition, questions to be answered - Data background and contents - Univariate analysis - Bivariate analysis - Key meaningful observations for each of the plot	Areas of Achievement: 1) Providing a comprehensive definition of the problem with additional perspectives. 2) Observing the shape of the data, data types of various attributes, missing values, and presenting a statistical summary. 3) Conducting thorough univariate analysis, including generating histograms and box plots for key variables like 'age,' 'income,' 'mortgage,' 'experience,' and 'zip code.' 4) Executing impressive bivariate and multivariate analysis, including creating a	10/10

Criteria	Ratings	Points
	correlation matrix and exploring relationships between key variables such as 'personal loan vs. credit card,' 'personal loan vs. online account,' 'experience vs. income,' and 'age vs. income,' among others. 5) Providing insightful interpretations for each univariate and bivariate plot.	
Data pre-processing Prepare the data for analysis: - Missing Value Treatment (if needed) - Outlier Detection (treat, if needed) - Feature Engineering - Data preparation for modelling	Areas of Performance: 1) The handling of negative values in the Experience column was well executed. 2) The preprocessing of the ZIP code column was approached with care and diligence. 3) Dropping the ID column was a good decision, streamlining the dataset. 4) Recognition of outliers and the inclusion of informative comments regarding them was commendable.	6/6
Model building - Decision Tree - Define model evaluation criterion - Build the model and comment on the model performance. - Visualize the decision rules and important features	Areas of Accomplishment: 1) The construction of a decision tree model using Sklearn was well executed. 2) The commentary on the model's performance was commendable. 3) The visualization of the decision tree or extraction of rules from it was excellently done. 4) Identifying the significant features was a great achievement.	10/10
Model Performance Evaluation and Improvement	Areas of Achievement: 1) Demonstrated exceptional proficiency in conducting	20/20

Criteria	Ratings	Points
- Try and improve the model performance by pruning (Both Post and Pre pruning) - Check the performance of the pruned models, compare the performance of all the models built, and select the final model - Find the decision rules and check feature importance for the final model	pre-pruning using GridSearchCV. 2) Executed post-pruning effectively, particularly in terms of recall. 3) Made an outstanding effort in evaluating the performance of all models and providing insightful commentary. 4) Demonstrated superb decision-making skills in selecting the final model, supported by valid reasoning. 5) Showed remarkable skill in visualizing the final model or extracting its rules. 6) Displayed commendable dedication to examining feature importance and providing valuable insights into the crucial features of the final model.	
Actionable Insights & Recommendations - Conclude with the key takeaways for the marketing team - What would your advice be on how to do this campaign?	Areas of Achievement: 1) You effectively summarized the model performance comparison and highlighted key takeaways, particularly in identifying important features. 2) Your recommendations to the business were well-written and actionable, enabling the business to take appropriate actions.	6/6
Presentation/Notebook - Overall Quality - Structure and flow - Crispness - Visual appeal - Conclusion and Business Recommendations OR - Structure and flow - Well-	Notebook: Areas of Achievement: 1) The overall structure and flow of the notebook are well-executed. 2) The notebook is concise and clear, with well-presented plots and written observations. 3) The	8/8

AI Mentor

Chat with AI Mentor to get instant answers to your queries related to this assignment. ⬈

Submitted Assignment

📄 PersonalLoan_FullCode_DavidBingham.html ⬇

Submitted at Wed, Apr 03

Comments:

Hi David,

I appreciate your submission for the project, and I want to acknowledge your commitment and diligence in its completion. Your effort and dedication are clearly evident, resulting in a project that is executed at a commendable level. After a thorough review of each section, I have provided constructive comments to further enhance your work. Your observations are effectively communicated, the plots are presented with clarity, and your documentation of the model architecture is comprehensive. Your adept handling of the questions posed is also worthy of recognition. In summary, I would like to commend you for the praiseworthy quality of your work.

Thank you once again for your submission.

Best regards,

Moderator, Apr 07, 12:49 PM

+ Add comments

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