



Rocket Loans is an online personal lending company headquartered in the heart of downtown Detroit, Michigan. Rocket Loans is the sister company of Quicken Loans, an online lender based in Detroit and founded in 1985. Rocket Loans offers fast funding and competitive annual percentage rates (APRs). The convenient loan experience, however, has to be balanced against the fact that the company does charge an origination fee. Before deciding on a personal loan, you'll want to do your own research to determine whether Rocket Loans is the best fit for your borrowing needs.

The company thereby needs a model developed which will help the agents to visit the right customer looking at the prediction that the model would make depending on the given datafields.

The firm also looks forward to some key analytical points that will help it/its agents to drive the business in the profitable direction.

Problem Statement: To predict Loan Approval (1 or 0) based on applicant's details.

1. a) Check for missing values in the dataset. Apply appropriate imputation techniques if dataset has missing values.
 - b) Convert nominal features into factors with numerical value mapped to each value.
 - c) Check for outliers in the dataset if any
2. Find loan approval rate for applicants having credit score (*i.e.* 1)
3. Give frequency distribution of total income for each group below.
(*i.e.* $Total\ Income = Loan_bearer_income + Loan_Cobearer_income$)
 - Below 5k
 - 5k to 10k
 - 10k to 15k
 - Above 15k
4. Which independent variable have high correlation with dependent variable?
(*Correlation Plot/Matrix is preferable*)
5. Model the data using any classification algorithm and explain the evaluation metrics used. (*Split the dataset into train (80%) and test (20%)*)