**2018 Lending Analytics Competition**

**Overview**

In the highly competitive automotive lending industry, the ability to make fast credit decisions can be the difference between booking and losing a loan. With the increasing number of lenders in the marketplace, financial institutions are under pressure to deliver immediate, accurate decisions before customers take their business elsewhere.

Automated decision engines are applications that allow institutions to deliver instant decisions at the time a member completes the application. The decisioning process becomes more efficient by feeding the applicant’s personal financial information directly into the engine which in turn quickly assesses the level of risk associated with the applicant then decides whether to approve or deny. This level of automation also enables lending institutions to deploy new decision strategies faster, so they can respond to market changes in a timely manner. Automated decision engines also can help institutions by allowing them to quickly adjust decisioning strategies to reflect new/updated regulatory changes.

**Problem**

The CFE lending department is tasked to review over 60K loan applications a year. CFE currently has a manual process in place for reviewing and decisioning loans. This was a strategic decision the credit union made in order to allow lenders to consider both quantitative and qualitative data when deciding whether to approve or deny a loan. While CFE would like to keep this human element in place there are a number of applications that we believe can be auto decisioned based on how CFE lenders have decisioned similar loans in the past.

CFE would like to move towards a hybrid approach where we automatically decision loans that on average we usually approve or deny without much research and spend more time researching those loans where the decision isn’t as clear. Your team’s goal for this project is to develop a model that can correctly predict whether a CFE lender will approve or deny a loan based on the data provided. The model must not only identify which factors are important in the decision making process but also ascertain the level of importance of each factor.

**Dataset**

Contest participants will be provided data from all of the vehicle loan applications CFE has received since 2015. This dataset includes the information lenders at CFE have stated they review when decisioning a loan application.

Contest participants will also be provided with a data dictionary, describing each of the data points. It will be imperative for participants to have a clear understanding of the data that they are working with—as much of the data is industry specific. Explaining their findings in a clear & concise manner will be just as important as having accurate results.

**Contest Structure**

The primary goal of the contest is to create a normative model that will automatically decision loans based on the data provided. CFE will provide 80% of the data for teams to train their model and the other 20% will provided for testing.

All entries will be judged based on the following criteria:

* Content in the Project Report
* Modeling Approach
* Results and Conclusions
* Presentation of results

Project codes must be written in R or Microsoft SQL. Code file types should be compatible with the software used (example R file should be in “\*.R”, Microsoft SQL file should be in “\*.sql”). Teams will be required to formally present their findings to the CFE competition judges at the CFE Headquarters located at 1000 Primera Lake Mary, FL 32746.

Judges will need to replicate the analysis using the team’s code/model on a test dataset. **Teams must provide formal instructions on how to run their model.** Judging will be based on the application of the data, the method(s) used to reach conclusions, the number of significant relationships or correlations unearthed, and the presentation of their findings.

It is important that contest participants communicate their findings in layman’s terms. Treat this assignment as if you were presenting to a group of decision makers whom do not have a strong background in rigorous statistical analysis.

**Important Dates**

Contest start date: September 14, 2018 (data files will be available on this date)

Final submissions due: February 1, 2019 (early submissions are encouraged)

Group presentations will be conducted during the weeks of Feb 4, 2019 and Feb 11, 2019

UCF analytics dept. notification of top three winners: March 9, 2019

**Prize Structure**

CFE is offering a very lucrative prize structure to incentivize participation:

1st Place: $3,000

2nd Place: $1,500

3rd Place: $500

These amounts will be paid out split evenly among all team members. If the members wish to re-disburse the amounts among themselves, that is up to their discretion.

**Questions & Contact Info**

CFE encourages students to contact us at any time with questions concerning the dataset. Please direct any questions you may have to BusinessIntelligence@mycfe.com