Indian Institute of Management Bangalore

**Case Study: Improving Lead Generation at Eureka Forbes Using Machine Learning Algorithms**

**Case Study Deadline:** December 15 2020 by 23:55 PM

**Case Study Deliverables:**

*One professionally written case study report per group, inclusive of the following*:

1. One-page *executive summary*, highlighting main features of your analysis, modelling, and comments on results obtained. You have submit either a word file or pdf file.
2. Main case study report including a succinct understanding of the problem, machine learning algorithm models, model diagnostics including sensitivity, specificity, Precision, F-score and AUC, results, and conclusions. Specific recommendations for the different questions listed below must also be included in the report. Report the model accuracy using the test data given separately.
3. Show all the calculations in the report to receive full credit.

CASE QUESTIONS

**EUREKA FORBES CASE QUESTIONS**

**Use sample data of 10000 records provided to answer the following questions**

1. How will Kashif test the following claims (10 Points)?
   1. Customers using mobile, desktop, and tablet are equally distributed.
   2. Customers who convert spend more time on the website.
2. Build a Logistic Regression Model on the given data. Interpret the results (10 Points).
3. Construct a simple decision tree (classification tree) classifier. What are the disadvantages of using decision tree classifiers (10 Points)?
4. Based on the previous two questions, what kind of modeling problems would Kashif expect when the classes are not represented adequately (imbalanced data)? Suggest ways to handle these problems (5 points).
5. Elaborate on the various sampling techniques that are best suited for the data (10 Points).
6. Use the sample data provided and appropriate sampling strategy to develop a Random Forest Model. Comment on the model development and the accuracy of the model (10 points).
7. Based on the different model results, what would be your final recommendation to Kashif? (5 points)