

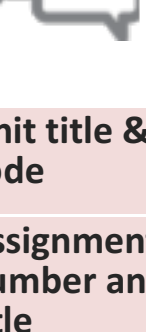


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Submission Deadline	Marks and Feedback
Before 10am on: Friday 17/12/2019 Fri 17/12/2019 (if required an extension could be granted by Student Mitigation Team)	20 working days after deadline (L4, 5 and 7) 15 working days after deadline (L6) 10 working days after deadline (block delivery)



Submit assignment

Marks and feedback

Submit title & code	CIS111-6: Intelligent Systems and Data Mining
Assignment number and title	Assignment 1: Data Mining Solutions for Direct Marketing Campaign
Assessment type	WR
Weighting of assessment	50%
Submit learning outcomes	1. Analyse a Data Mining technique capable of supporting practitioners to make reliable decisions which require predictive modelling, for example, in a Business scenario 2. Demonstrate results of using an efficient technique which is capable of finding a solution to a given predictive problem represented by a data set 3. Evaluate the accuracy of the technique in terms of differences between the predicted values and the given data



Completing Your Assignment

What am I required to do in this assignment?

Task

Students will develop a DM solution for saving cost of a direct marketing campaign by reducing false positive (wasted call) and false negative (missed customer) decisions. Working on this assignment, students can consider the following scenario.

Bank has decided to save the cost of direct marketing campaign based on phone calls offering a product to a client. A cost efficient solution is expected to support the campaign with predictions for a given client profile whether the client subscribes to the product or not. A startup company wants to develop an innovative DM technology which will be competitive on the market. The Manager will interview and hire Data Analysts. The team will analyse the existing technologies to design a DM solution winning the competition. A team manager will choose the best solution for the market competition in terms of cost efficiency. The evaluation of the developed solutions will be made on the test data. The costs will be defined for both the false positive and false negative predictions.

← 2019BLK2 Assignment 1...

CI Machine Learning repository describing a [Bank Marketing](#) problem.


Students will apply for one of roles: (i) group manager, (ii) group member, or will work individually. The group manager will arrange comparison and ranking of solutions designed in a group, and will have additional 5 points. Each student will run individual experiments to find an efficient solution and describe differences in experimental results.

Method and Technology

To design a solution, students will use Data Mining techniques such as Decision Trees and Artificial Neural networks. Examples of solutions will be provided in R Scripting using (i) a Cloud technology [CoCalc](#) or (ii) an advanced development suit [RStudio](#) free for students.

Data

The Assinment 1 Bank Marketing data



Edit with the Docs app

Make tweaks, leave comments and share with others to edit at the same time.

NO, THANKS

GET THE APP

prepared with a [template](#). BREO similarity level of reports must be < 10%.

Is there a size limit?

1000 words on average

What do I need to do to pass? (Threshold Expectations from UIF)

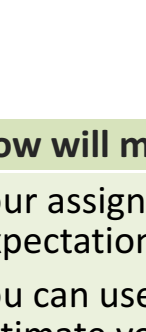
1. Apply Decision Tree technique to solve the Bank Marketing task presented by a set of customer profiles
2. Analyse problems which are required to be resolved in order to develop a solution providing a high prediction accuracy on a given data set.

How do I produce high quality work that merits a good grade?

1. Identify a set of parameters which are required to be adjusted within DM techniques in order to optimise the solution in terms of prediction accuracy
2. Explain how the parameters of a DM technique influence the prediction accuracy
3. Run experiments in order to verify the solution designed on the given data set
4. Analyse and compare the results of the experiments in a group and with the known from the literature.

How does assignment relate to what we are doing in scheduled sessions?

Data Mining techniques and use cases developed in R will be considered during lectures and tutorials.



Marks and Feedback

How will my assignment be marked?

Your assignment be marked according to the threshold expectations and the criteria on the following page. You can use them to evaluate your own work and estimate your grade before you submit.

Weight, %	Lower 2 nd – 50-59%	Upper 2 nd – 60-69%	1 st
Analysis (20)	Fair analysis of the basic approaches	Relatively good analysis of the relevant literature, mainly covering the state-of-art	Excellent analysis relevant literature fully the art
Design (50)	Fair design of a basic solution providing a reasonable performance within a single set of parameters	Design of a solution providing a fair performance in a series of experiments with different sets of parameters	Design solution providing perfect performance known the in a exper with sets para
Conclusion (30)	Fair conclusion on the experimental results obtained within a single set of parameters	Conclusion on and comparison of the experimental results obtained within two different sets of parameters	Conclusion and comparison the exper resu obta with mul of para dem a so which prov com perf



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