Analytics Project 2024

The data is related with direct marketing campaigns (phone calls) of a Portuguese banking institution collected from May 2008 to November 2010. Often, more than one contact to the same client was required, to access if the product (bank term deposit) would be ('yes') or not ('no') subscribed. The classification goal is to predict if the client will subscribe a term deposit (variable y).

Variables

Variable name	Description
Age	Integer
Job	Type of job (categorical: 'admin.', 'blue-collar', 'entrepreneur', 'housemaid', 'management', 'retired', 'self-employed', 'services', 'student', 'technician', 'unemployed', 'unknown')
Marital	Marital status (categorical: 'divorced', 'married', 'single', 'unknown') note: 'divorced' means divorced or widowed
Education	Education level (categorical: 'basic.4y', 'basic.6y', 'basic.9y', 'high school', 'illiterate', 'professional course', 'university degree', 'unknown')
Default	Has credit in default
Housing	Has housing loan
Loan	Has personal loan
Day_of_week	Last contact day of week
Month	Last contact month of year
Campaign	Number of contacts performed during this campaign and for this client
Previous	Number of contacts performed before this campaign and for this client
Poutcome	Outcome of the previous marketing campaign (categorical: ‘failure’, ‘nonexistent’, ‘success’)
Emp.var.rate	Employment variation rate – quarterly indicator
Cons.price.idx	Consumer price index – monthly indicator
Cons.conf.idx	Consumer confidence index – monthly indicator
Euribor3m	Euribor 3-month rate – daily indicator
y	Target variable: Has the client subscribed a term deposit

There are missing values which must be treated adequately. Perhaps not all attributes contribute to the classification.

Try out at least three different classification algorithms and compare them.

What is the business aspect of the problem?

Present your findings with the help of data story telling in a paper and an on-site presentation.

You can find the dataset on moodle. It consists of over 45000 records.

Source: https://archive.ics.uci.edu/ adapted