



Bank Marketing

Donated on 2/13/2012

The data is related with direct marketing campaigns (phone calls) of a Portuguese banking institution. The classification goal is to predict if the client will subscribe a term deposit (variable y).

Dataset Characteristics

Multivariate

Associated Tasks

Classification

Instances

45211

Subject Area

Business

Feature Type

Categorical, Integer

Features

16

Dataset Information

Additional Information

The data is related with direct marketing campaigns of a Portuguese banking institution. The marketing campaigns were based on phone calls. Often, more than one contact to the same client was required, in order to access if the product (bank term deposit) would be ('yes') or not ('no') subscribed.

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Has Missing Values?

No

Introductory Paper

[A data-driven approach to predict the success of bank telemarketing](#)

By Sérgio Moro, P. Cortez, P. Rita. 2014

Published in Decision Support Systems

Variables Table

Variable Name	Role	Type	Demographic	Description	Unit
age	Feature	Integer	Age		
job	Feature	Categorical	Occupation	type of job (categorical: 'admin.','blue-collar','entrepreneur','housemaid','management','retired','self-employed','services','student','technician','unemployed','unknown')	
marital	Feature	Categorical	Marital Status	marital status (categorical: 'divorced','married','single','unknown'; note: 'divorced' means divorced or widowed)	
education	Feature	Categorical	Education Level	(categorical: 'basic.4y','basic.6y','basic.9y','high.school','illiterate','professional.course','university.degree','unknown')	
default	Feature	Binary		has credit in default?	
balance	Feature	Integer		average yearly balance	eur
housing	Feature	Binary		has housing loan?	
loan	Feature	Binary		has personal loan?	
contact	Feature	Categorical		contact communication type (categorical: 'cellular','telephone')	

Variable Name	Role	Type	Demographic	Description	Unit
day_of_week	Feature	Date		last contact day of the week	
month	Feature	Date		last contact month of year (categorical: 'jan', 'feb', 'mar', ..., 'nov', 'dec')	
duration	Feature	Integer		last contact duration, in seconds (numeric). Important note: this attribute highly affects the output target (e.g., if duration=0 then y='no'). Yet, the duration is not known before a call is performed. Also, after the end of the call y is obviously known. Thus, this input should only be included for benchmark purposes and should be discarded if the intention is to have a realistic predictive model.	
campaign	Feature	Integer		number of contacts performed during this campaign and for this client (numeric, includes last contact)	
pdays	Feature	Integer		number of days that passed by after the client was last contacted from a previous campaign (numeric; -1 means client was not previously contacted)	
previous	Feature	Integer		number of contacts performed before this campaign and for this client	
poutcome	Feature	Categorical		outcome of the previous marketing campaign (categorical: 'failure','nonexistent','success')	
y	Target	Binary		has the client subscribed a term deposit?	

Rows per page

25

 0 to 17

Additional Variable Information

Input variables:
bank client data:
1 - age (numeric)...

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Dataset Files

File	Size
bank.zip	565.5 KB
bank-additional.zip	434.2 KB

Papers Citing this Dataset

 SORT BY YEAR, DESC

[Fair Algorithms for Clustering](#)
By Suman Bera, Deeparnab Chakrabarty, Nicolas Flores, Maryam Negahbani. 2019
Published in ArXiv.

[Clustering with Fairness Constraints: A Flexible and Scalable Approach](#)
By Imtiaz Ziko, Eric Granger, Jing Yuan, Ismail Ayed. 2019
Published in ArXiv.

[Noise-tolerant fair classification](#)
By Alexandre Lamy, Ziyuan Zhong, Aditya Menon, Nakul Verma. 2019
Published in ArXiv.

[AdaFair: Cumulative Fairness Adaptive Boosting](#)
By Vasileios Iosifidis, Eirini Ntoutsi. 2019
Published in

[Quantification under prior probability shift: the ratio estimator and its extensions](#)
By Afonso Vaz, Rafael Izbicki, Rafael Stern. 2018
Published in ArXiv.

Reviews

4.0



(1 rating)

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Nice

3/1/2024

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CITE

9 citations

390026 views

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DOI

10.24432/C5K306

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