

Course Assignment

For the course: Machine Learning with Python

Business Requirements

You have been hired to deliver actionable insight to support your client who is a national charitable organization. The client seeks to use the results of a previous postcard mail solicitation for donations to improve outcome in the next campaign. You want to determine which of the individuals in their mailing database have characteristics similar to those of your most profitable donors. By soliciting only these people, your client can spend less money on the solicitation effort and more money on charitable concerns.

You have been provided two data sets:

- A. **Donor Raw Data:** this is a historical data, containing previous donor details. Target B column, provides information whether they have donated in past campaign or not.
- B. **Prospective Donors:** this is a list of new contact; your client is interested in reaching out to in the next campaign they intend to carry out soon.

You are required to deliver a ten-page PowerPoint presentation of your actionable recommendation to help the client identify which prospects they should focus their next campaign on.

Further information of the variable in the data set:

Variable	Description
CARD_PROM_12	Number of card promotions received in the last 12 months
CLUSTER_CODE	54 socio-economic cluster codes
CONTROL_NUMBER	The control number uniquely identifies each member of the analysis population
DONOR_AGE	Age as of June 1997
DONOR_GENDER	Actual or inferred gender
FILE_AVG_GIFT	Average gift from raw data
FILE_CARD_GIFT	Average card gift from raw data
FREQUENCY_STATUS-97NK	Frequency status as of June 1997
HOME_OWNER	H=Homeowner U=Unknown
INCOME_GROUP	7 income group levels
IN_HOUSE	A final field identifies donors who are part of the organization's In House program
LAST_GIFT_AMT	Amount of most recent donation
LIFETIME_AVG_GIFT_AMT	Overall average gift amount
LIFETIME_CARD_PROM	Total number of card promotions received
LIFETIME_GIFT_AMOUNT	Total gift amount given
LIFETIME_GIFT_COUNT	Total number donations given
LIFETIME_GIFT_RANGE	Maximum less minimum gift amount
LIFETIME_MAX_GIFT_AMT	Maximum gift amount
LIFETIME_MIN_GIFT_AMT	Minimum gift amount

LIFETIME_PROM	Total number of promotions received
MEDIAN_HOME_VALUE	Median home value in \$100's
MEDIAN_HOUSEHOLD_INCOME	Median household income in \$100's
MONTHS_SINCE_FIRST_GIFT	First donation date from June 1997
MONTHS_SINCE_LAST_GIFT	Last donation date from June 1997
MONTHS_SINCE_LAST_PROM_RESP	Number of months since donor has responded to a promotion date from June 1997
MONTHS_SINCE_ORIGIN	This number is derived from MONTHS_SINCE_FIRST
MOR_HIT_RATE	Total number of known times the donor has responded to a mail order offer other than the national charitable organization's.
NUMBER_PROM_12	Number of promotions received in the last 12 months
OVERLAY_SOURCE	M=Metromail
	P=Polk
	B=Both
PCT_ATTRIBUTE1	Percent with attribute1 in the block
PCT_ATTRIBUTE2	Percent with attribute2 in the block
PCT_ATTRIBUTE3	Percent with attribute3 in the block
PCT_ATTRIBUTE4	Percent with attribute4 in the block
PCT_OWNER_OCCUPIED	Percent of owner-occupied housing
PEP_STAR	STAR-status ever (1=yes, 0=no)
PER_CAPITA_INCOME	Per capita income in dollars
PUBLISHED_PHONE	Indicator of presence of published telephone listing
REGENCY_STATUS_96NK	Recency status as of June 1996
RECENT_AVG_CARD_GIFT_AMT	Average gift amount to card promotions since June 1994
RECENT_AVG_GIFT_AMT	Average gift amount since June 1994
RECENT_CARD_RESPONSE_COUNT	Response count since June 1994
RECENT_CARD_RESPONSE_PROP	Response proportion since June 1994
RECENT_RESPONSE_COUNT	Response count since June 1994
RECENT_RESPONSE_PROP	Response proportion since June 1994
RECENT_STAR_STATUS	STAR (1,0) status since June 1994
SES	5 socio-economic cluster codes
TARGET_B	Response to 97NK solicitation (1=yes, 0=no)
TARGET_D	Response amount to 97NK solicitation (missing if no response)
URBANICITY	U=Urban
	C=City
	S=Suburban
	T=Town
	R=Rural
	?=Unknown
WEALTH_RATING	10 wealth rating groups

Submission Instructions

1. Email address for submission:

- To: trainingsupport@pairview.co.uk
Cc: admin@pairview.co.uk

2. Assignment deadline

- Please refer to the email to which this document was attached.

3. Pairview Training Support contact details:

- To: trainingsupport@pairview.co.uk
Cc: admin@pairview.co.uk
- Please email us your query/problem first. Please attach a screenshot of what happened if it is regarding a technical issue. This helps us diagnose the cause of your problems to advise you more quickly and efficiently. We will try our best to respond to you within 24 hours of receiving your email.
- Available from Monday to Friday, from 9am to 5pm

We wish you all the best with your learning and career development.