

# Term Deposit Conversion Model

In this challenge, you're provided with the data for direct marketing campaigns of a financial 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.

The classification goal is to predict if the client will subscribe (yes/no) a term deposit (variable y). Here is the description for different fields in the data

- 1 - age (numeric)
- 2 - job : type of job (categorical: 'admin.', 'blue-collar', 'entrepreneur', 'housemaid', 'management', 'retired', 'self-employed', 'services', 'student', 'technician', 'unemployed', 'unknown')
- 3 - marital : marital status (categorical: 'divorced', 'married', 'single', 'unknown'; note: 'divorced' means divorced or widowed)
- 4 - education (categorical: 'basic.4y', 'basic.6y', 'basic.9y', 'high.school', 'illiterate', 'professional.course', 'university.degree', 'unknown')
- 5 - default: has credit in default? (categorical: 'no', 'yes', 'unknown')
- 6 - housing: has housing loan? (categorical: 'no', 'yes', 'unknown')
- 7 - loan: has personal loan? (categorical: 'no', 'yes', 'unknown') # related with the last contact of the current campaign:
- 8 - contact: contact communication type (categorical: 'cellular', 'telephone')
- 9 - month: last contact month of year (categorical: 'jan', 'feb', 'mar', ..., 'nov', 'dec')
- 10 - day\_of\_week: last contact day of the week (categorical: 'mon', 'tue', 'wed', 'thu', 'fri')
- 11 - duration: last contact duration, in seconds (numeric). Important note: this attribute highly affects the output target (e.g., if duration=0 then y='no')
- 12 - campaign: number of contacts performed during this campaign and for this client (numeric, includes last contact)
- 13 - pdays: number of days that passed by after the client was last contacted from a previous campaign (numeric; 999 means client was not previously contacted)
- 14 - previous: number of contacts performed before this campaign and for this client (numeric)
- 15 - poutcome: outcome of the previous marketing campaign (categorical: 'failure', 'nonexistent', 'success') # social and economic context attributes
- 16 - emp.var.rate: employment variation rate - quarterly indicator (numeric)
- 17 - cons.price.idx: consumer price index - monthly indicator (numeric)
- 18 - cons.conf.idx: consumer confidence index - monthly indicator (numeric)
- 19 - euribor3m: euribor 3 month rate - daily indicator (numeric)
- 20 - nr.employed: number of employees - quarterly indicator (numeric) Output variable (desired target):
- 21 - y - has the client subscribed a term deposit? (binary: 'yes', 'no') Aviva: Public

## Questions

1. Build a model to predict which customers are going to subscribe to term deposit product.
2. Once your model is built, think about how you'd deploy it in production, which technologies you'd use?  
How the marketing team can use/consume your model?
3. How do you decide when your model needs to be refreshed/retrained?
4. What other data sources you think can help improve your model?