**The dataset**

**Input variables:**

**Bank client data:**

* age (numeric)
* 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 (categorical: 'basic.4y','basic.6y','basic.9y','high.school','illiterate','professional.course','university.degree','unknown')
* default: has credit in default? (categorical: 'no','yes','unknown')
* housing: has housing loan? (categorical: 'no','yes','unknown')
* loan: has personal loan? (categorical: 'no','yes','unknown')

**Related with the last contact of the current campaign:**

* contact: contact communication type (categorical: 'cellular','telephone')
* month: last contact month of year (categorical: 'jan', 'feb', 'mar', ..., 'nov', 'dec')
* day\_of\_week: last contact day of the week (categorical: 'mon','tue','wed','thu','fri')
* duration: 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.

**Other attributes:**

* campaign: number of contacts performed during this campaign and for this client (numeric, includes last contact)
* 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)
* previous: number of contacts performed before this campaign and for this client (numeric)
* poutcome: outcome of the previous marketing campaign (categorical: 'failure','nonexistent','success')

**social and economic context attributes:**

* emp.var.rate: employment variation rate - quarterly indicator (numeric)
* cons.price.idx: consumer price index - monthly indicator (numeric)
* cons.conf.idx: consumer confidence index - monthly indicator (numeric)
* euribor3m: euribor 3 month rate - daily indicator (numeric)
* nr.employed: number of employees - quarterly indicator (numeric)

**Desired target: Output variable:**

* y - has the client subscribed a term deposit? (binary: 'yes','no')